SOUTH ORANGE COUNTY TRANSPORTATION INFRASTRUCTURE IMPROVEMENT PROJECT PROJECT ALTERNATIVES TECHNICAL REPORT VOLUME I

FINAL

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December 2003

PREFACE

The alternatives considered for the South Orange County Transportation Infrastructure Improvement Project (SOCTIIP) are described in detail in this technical report (Project Alternatives Technical Report). The alternatives described in this Report include a number of build alternatives, including extensions to the existing Foothill Transportation Corridor, improvements to Interstate 5 and arterial highway improvements, and two No Action Alternatives.

Individual technical reports were prepared to assess the potential environmental impacts of the SOCTIIP alternatives. The following reports describe the study area for the individual parameter, existing conditions, study methodology, short and long term adverse and beneficial effects of the SOCTIIP alternatives and appropriate mitigation measures.

Air Quality Technical Report (Mestre Greve Associates, 2003).

Geotechnical, Geology and Soils Technical Report (GeoPentech, 2003).

Hazardous Materials and Wastes Technical Report (P&D Consultants, 2003).

Hydrology Technical Report (Psomas, 2003).

Land Use Technical Report (P&D Consultants, 2003).

Location Hydraulic Studies (Psomas, 2003).

Military Impacts Technical Report (P&D Consultants, 2003).

Natural Environment Study (P&D Consultants, 2003).

Noise Assessment (Mestre Greve Associates, 2003).

Paleontological Resources Technical Report (SWCA, 2003).

Phase I Archeological Inventory (Greenwood and Associates, 2003).

Phase I Historical Resource Inventory Report (Greenwood and Associates, 2003).

Public Services and Utilities Technical Report (P&D Consultants, 2003).

Recreation Resources Technical Report (P&D Consultants, 2003).

Relocation Impacts Technical Report (P&D Consultants, 2003).

Runoff Management Plan (Psomas, 2003).

Socioeconomics and Growth Inducing Impacts Technical Report (P&D Consultants, 2003).

Traffic and Circulation Technical Report (Austin Foust Associates, 2003).

Visual Impact Assessment Technical Report (P&D Consultants, 2003).

These technical reports are available for review at the Transportation Corridor Agencies office.

This Technical Report describes a wide range of build and no action alternatives considered for the SOCTIIP. Based on the findings of the analysis of the potential effects of these alternatives as documented in the technical reports, the SOCTIIP Collaborative evaluated each alternative and made a decision whether to advance an alternative for detailed evaluation in the EIS/SEIR or to eliminate that alternative from detailed consideration in the EIS/SEIR. Table P-1 lists the SOCTIIP alternatives described in this Technical Report and identifies which were advanced for detailed evaluation in the EIS/SEIR and which were eliminated from further consideration in the EIS/SEIR. The detailed explanation for why each alternative was eliminated is provided in the EIS/SEIR.

During the preparation of the technical studies for the SOCTIIP, the name of the Rancho Mission Viejo (RMV) Land Conservancy was changed to the Donna O'Neill Land Conservancy. All references to the RMV Land Conservancy or the RMV Conservancy in this Technical Report should be interpreted to refer to the Donna O'Neill Land Conservancy.

TABLE P-1
SOCTIIP ALTERNATIVES ADVANCED TO THE EIS/SEIR OR ELIMINATED FROM DETAILED EVALUATION IN THE EIS/SEIR

TOLL ROAD CORRIDOR ALTERNATIVES	
FAR EAST CORRIDOR ALIGNMENT ALTERNATIVES	**Alternative Advanced or Eliminated (1)**
Far East Corridor - Complete - Initial Alternative	Eliminated.
Far East Corridor - Complete - Ultimate Alternative	Eliminated.
Far East Corridor - Talega Variation - Initial Alternative	Eliminated
Far East Corridor - Talega Variation - Ultimate Alternative	Eliminated
Far East Corridor - Cristianitos Variation - Initial Alternative	Eliminated.
Far East Corridor - Cristianitos Variation - Ultimate Alternative	Eliminated.
Far East Corridor - Agricultural Fields Variation - Initial Alternative	Eliminated.
Far East Corridor - Agricultural Fields Variation - Ultimate Alternative	Eliminated.
Far East Corridor - Ortega Highway Variation - Initial Alternative	Eliminated.
Far East Corridor - Ortega Highway Variation - Ultimate Alternative	Eliminated.
Far East Corridor - Avenida Pico Variation - Initial Alternative	Eliminated.
Far East Corridor - Avenida Pico Variation - Ultimate Alternative	Eliminated.
Far East Corridor-West-Initial Alternative	Advanced.
Far East Corridor-West-Ultimate Alternative	Advanced.
Far East Corridor-Modified-Initial Alternative	Advanced.
Far East Corridor-Modified-Ultimate Alternative	Advanced.
CENTRAL CORRIDOR ALIGNMENT ALTERNATIVES	**Alternative Advanced or Eliminated (1)**
Central Corridor - Complete - Initial Alternative	Advanced.
Central Corridor - Complete - Ultimate Alternative	Advanced.
Central Corridor - Avenida La Pata Variation - Initial Alternative	Advanced.
Central Corridor - Avenida La Pata Variation - Ultimate Alternative	Advanced.
Central Corridor - Ortega Highway Variation - Initial Alternative	Eliminated.
Central Corridor - Ortega Highway Variation - Ultimate Alternative	Eliminated.
ALIGNMENT 7 CORRIDOR ALIGNMENT ALTERNATIVES	**Alternative Advanced or Eliminated (1)**
Alignment 7 Corridor - Complete - Initial Alternative	Eliminated.
Alignment 7 Corridor - Complete - Ultimate Alternative	Eliminated.
Alignment 7 Corridor - 7 Swing Variation - Initial Alternative	Eliminated.
Alignment 7 Corridor - 7 Swing Variation - Ultimate Alternative	Eliminated.
Alignment 7 Corridor - Far East Crossover Variation - Initial Alternative	Eliminated.
Alignment 7 Corridor - Far East Crossover Variation - Ultimate Alternative	Eliminated.
Alignment 7 Corridor - Far East Crossover (Cristianitos) Variation - Initial Alternative	Eliminated.
Alignment 7 Corridor - Far East Crossover (Cristianitos) Variation - Ultimate Alternative	Eliminated.

TABLE P-1
SOCTIIP ALTERNATIVES ADVANCED TO THE EIS/SEIR OR ELIMINATED FROM DETAILED EVALUATION IN THE EIS/SEIR

TOLL ROAD CORRIDOR ALTERNATIVES	
Alignment 7 Corridor - Far East Crossover (Agricultural Fields) Variation - Initial Alternative	Eliminated.
Alignment 7 Corridor - Far East Crossover (Agricultural Fields) Variation - Ultimate Alternative	Eliminated.
Alignment 7 Corridor - Ortega Highway Variation - Initial Alternative	Eliminated.
Alignment 7 Corridor - Ortega Highway Variation - Ultimate Alternative	Eliminated.
Alignment 7 Corridor - Avenida La Pata Variation - Initial Alternative	Advanced.
Alignment 7 Corridor - Avenida La Pata Variation - Ultimate Alternative	Advanced.
Alignment 7 Corridor-Far East Corridor-Modified-Initial Alternative	Advanced.
Alignment 7 Corridor-Far East Corridor-Modified-Ultimate Alternative	Advanced.
NON-TOLL ROAD ALTERNATIVES	
ARTERIAL IMPROVEMENTS ALTERNATIVES	**Alternative Advanced or Eliminated (1)**
Arterial Improvements Only - Alternative	Advanced.
Arterial Improvements Only Plus HOV and Spot Mixed-Flow Lanes on I-5 Alternative	Eliminated.
I-5 ALTERNATIVE	**Alternative Advanced or Eliminated (1)**
I-5 Widening Alternative	Advanced.
NO ACTION ALTERNATIVES	**Alternative Advanced or Eliminated (1)**
No Action Alternative - Orange County Projections 2000	Advanced.
No Action Alternative - Rancho Mission Viejo (RMV) Development Plan	Advanced.

(1) Advanced: Alternative was advanced for detailed evaluation in the EIS/SEIR.
Eliminated: Alternative was eliminated from detailed evaluation in the EIS/SEIR and is discussed in the EIS/SEIR as an alternative "considered and eliminated."

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GLOSSARY OF ACRONYMS

G.1 ACRONYMS FOR THE BUILD ALTERNATIVES

There are a number of build alternatives considered for the South Orange County Transportation Infrastructure Improvement Project. The acronyms for the build alternatives are listed below.

Far East Corridor-Complete-Initial Alternative	FEC-Initial Alternative
Far East Corridor-Complete-Ultimate Alternative	FEC-Ultimate Alternative
Far East Corridor-Talega Variation-Initial Alternative	FEC-TV-Initial Alternative
Far East Corridor-Talega Variation-Ultimate Alternative	FEC-TV-Ultimate Alternative
Far East Corridor-Cristianitos Variation-Initial Alternative	FEC-CV-Initial Alternative
Far East Corridor-Cristianitos Variation-Ultimate Alternative	FEC-CV-Ultimate Alternative
Far East Corridor-Agricultural Fields Variation-Initial Alternative	FEC-AFV-Initial Alternative
Far East Corridor-Agricultural Fields Variation-Ultimate Alternative	FEC-AFV-Ultimate Alternative
Far East Corridor-Ortega Highway Variation-Initial Alternative	FEC-OHV-Initial Alternative
Far East Corridor-Ortega Highway Variation-Ultimate Alternative	FEC-OHV-Ultimate Alternative
Far East Corridor-Avenida Pico Variation-Initial Alternative	FEC-APV-Initial Alternative
Far East Corridor-Avenida Pico Variation-Ultimate Alternative	FEC-APV-Ultimate Alternative
Far East Corridor-West-Initial Alternative	FEC-W-Initial Alternative
Far East Corridor-West-Ultimate Alternative	FEC-W-Ultimate Alternative
Far East Corridor-Modified-Initial Alternative	FEC-M-Initial Alternative
Far East Corridor-Modified-Ultimate Alternative	FEC-M-Ultimate Alternative
Central Corridor-Complete-InitialAlternative	CC-Initial Alternative
Central Corridor-Complete-Ultimate Alternative	CC-Ultimate Alternative
Central Corridor-Avenida La Pata Variation-Initial Alternative	CC-ALPV-Initial Alternative
Central Corridor-Avenida La Pata Variation-Ultimate Alternative	CC-ALPV-Ultimate Alternative
Central Corridor-Ortega Highway Variation-Initial Alternative	CC-OHV-Initial Alternative
Central Corridor-Ortega Highway Variation-Ultimate Alternative	CC-OHV-Ultimate Alternative
Alignment 7 Corridor-Complete-Initial Alternative	A7C-Initial Alternative
Alignment 7 Corridor-Complete-Ultimate Alternative	A7C-Ultimate Alternative
Alignment 7 Corridor-7 Swing Variation-Initial Alternative	A7C-7SV-Initial Alternative
Alignment 7 Corridor-7 Swing Variation-Ultimate Alternative	A7C-7SV-Ultimate Alternative
Alignment 7 Corridor-Far East Crossover Variation-Initial Alternative	A7C-FECV-Initial Alternative
Alignment 7 Corridor-Far East Crossover Variation-Ultimate Alternative	A7C-FECV-Ultimate Alternative
Alignment 7 Corridor-Far East Crossover (Cristianitos) Variation-Initial Alternative	A7C-FECV-C-Initial Alternative
Alignment 7 Corridor-Far East Crossover (Cristianitos) Variation-Ultimate Alternative	A7C-FECV-C-Ultimate Alternative
Alignment 7 Corridor-Far East Crossover (Agricultural Fields) Variation-Initial Alternative	A7C-FECV-AF-Initial Alternative
Alignment 7 Corridor-Far East Crossover (Agricultural Fields) Variation-Ultimate Alternative	A7C-FECV-AF-Ultimate Alternative
Alignment 7 Corridor-Ortega Highway Variation-Initial Alternative	A7C-OHV-Initial Alternative
Alignment 7 Corridor-Ortega Highway Variation-Ultimate Alternative	A7C-OHV-Ultimate Alternative
Alignment 7 Corridor-Avenida La Pata-Initial Variation	A7C-ALPV-Initial Alternative
Alignment 7 Corridor-Avenida La Pata-Ultimate Variation	A7C-ALPV-Ultimate Alternative
Alignment 7 Corridor-Far East Crossover-Modified-Initial Alternative	A7C-FEC-M-Initial Alternative

Alignment 7 Corridor-Far East Crossover-Modified-Ultimate Alternative	A7C-FEC-M-Ultimate Alternative
Arterial Improvements Only Alternative	AIO Alternative
Arterial Improvements Plus HOV and Spot Mixed-Flow Lanes on I-5 Alternative	AIP Alternative
I-5 Widening Alternative	I-5 Alternative
No Action Alternative-Orange County Projections 2000	No Action Alternative-OCP-2000
No Action Alternative-Rancho Mission Viejo Development Plan	No Action Alternative-RMV

G.2 OTHER ACRONYMS

AASHTO	American Association of State and Highway Transportation Officials
ac	acre, acres
ACOE	United States Army Corps of Engineers
ADT	Average Daily Traffic
AVI	Automatic Vehicle Identification
BSIP	Bus System Improvement Project
C	Collector/commuter road
CAA, CAAs	Community Analysis Area, Areas
Caltrans	California Department of Transportation
CBD	Central Business District
CCC	California Coastal Commission
CDMG	Corridor Design Management Group
CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
CIP	Capital Improvement Program
CHSRA	California High Speed Rail Authority
CSS	coastal sage scrub
CSUF	California State University, Fullerton
CWA	Federal Clean Water Act
cy	cubic yard, yards
D	diesel
DON	Department of the Navy
du,dus	Dwelling unit, dwelling units
EIR	Environmental Impact Report
EIS	Environmental Impact Statement
EPA	United States Environmental Protection Agency
ETC	Eastern Transportation Corridor
FHWA	Federal Highway Administration
F.R.	Federal Register
FTA	Federal Transit Administration
FTC	Foothill Transportation Corridor
FTC-N	Foothill Transportation Corridor - North
FTC-S	Foothill Transportation Corridor – South

G	gas
GP	General purpose traffic lane
GMP	Growth Management Plan
ha	hectare, hectares
HCM	Highway Capacity Manual
HOV	High occupancy vehicle
HOT	High occupancy traffic
HP	horsepower
HSR	High Speed Rail
I-5	Interstate 5
I-15	Interstate 15
I-405	Interstate 405
ITC	Irvine Transportation Center
JPA	Joint Powers Agency
km	kilometer, kilometers
LOS, LOSs	Level of Service, Levels of Service
LOSSAN	Los Angeles-San Diego corridor
LRT	Light Rail Transit
LUE, LUEs	Land Use Element, Land Use Elements
M	Major Arterial
m	meter, meters
m	million, millions
MCAS	Marine Corps Air Station
MCB	Marine Corps Base
mi	mile, miles
MIS	Major Investment Study
MOU	Memorandum of Understanding
MPAH	Master Plan of Arterial Highways
n/a	not applicable
NB	northbound
NCCP	Natural Community Conservation Plan
NCTD	North County Transit District
NEPA	National Environmental Policy Act
NMFS	National Marine Fisheries Service
NOI	Notice of Intent
OCP-2000	Orange County Projections 2000
OCTA	Orange County Transportation Authority
P	Primary Arterial
PC	Planned Community
PPM	Pacific Pocket Mouse

RMV	Rancho Mission Viejo
RSA	Regional Statistical Area
RTP	Regional Transportation Plan
S	Secondary Arterial
SANDAG	San Diego Association of Governments
SB	southbound
SCAG	Southern California Association of Governments
SCRRA	Southern California Regional Rail Authority
SDG&E	San Diego Gas & Electric
SEIR	Subsequent Environmental Impact Report
SJHTC	San Joaquin Hills Transportation Corridor
SM	Smart Street
SOCTIIP	South Orange County Transportation Infrastructure Improvement Project
SONGS	San Onofre Nuclear Generating Station'
SR 1	State Route 1
SR 73	State Route 73
SR 74	State Route 74
SR 78	State Route 78
SR 91	State Route 91
SR 241	State Route 241
ST	Short twin trips
TAZ, TAZs	Traffic Analysis Zone, Traffic Analysis Zones
TCA	Foothill/Eastern Transportation Corridor Agency
TCA	Transportation Corridor Agencies
TCRP	Traffic Congestion Relief Plan
TDM	Transportation Demand Management
TEA-21	Federal Transportation Act for the 21st Century
TSM	Transportation Systems Management
USFWS	United States Fish and Wildlife Service
2, 4, 6, 8	number of travel lanes

G.3 MEASUREMENTS

The measurement units in this report are expressed in both metric and English units, with metric units followed by English units in parentheses. For ease of translation, the following conversions are included to allow the reader to better understand the measurements in the report.

English/Metric Conversion	**Metric/English Conversion**
AREA	**AREA**
1 square foot = 0.093 square meters 1 acre = 0.405 hectares, 4047 square meters 1 square mile (640 acres) = 2.59 square kilometers	1 square meter = 10.764 square feet 1 hectare = 2.471 acres 1 square kilometer = 0.386 square miles
LENGTH	**LENGTH**
1 inch = 2.54 centimeters	1 centimeter = 0.394 inch
1 foot = 30.480 centimeters or 0.305 meters	--
1 yard = 0.914 meters	1 meter = 1.094 yards
1 mile = 1.609 kilometers	1 kilometer = 0.621 mile

SECTION 1.0
PURPOSE OF THE TECHNICAL REPORT

1.1 DESCRIPTION OF THE SOCTIIP ALTERNATIVES

This technical report describes the alternatives to be considered in the environmental document for the South Orange County Transportation Improvement Project (SOCTIIP). The SOCTIIP proposes locating, constructing and operating transportation improvements in southern Orange County in the shaded area shown on Figure 1.1-1. Figure 1.1-1 also shows the existing freeways and toll roads in Orange County. The SOCTIIP alternatives include alternatives to extend the existing Foothill Transportation Corridor (FTC, State Route (SR) 241) from Oso Parkway to Interstate 5 (I-5) near the Orange County/San Diego County boundary, to improve existing and master planned arterial highways and to widen I-5 from the County boundary north to the interchange with Interstate 405 (I-405).

The Foothill/Eastern Transportation Corridor Agency (TCA), a Joint Powers Agency (JPA), is the project sponsor for the SOCTIIP, which was previously referred to as the FTC-South. The TCA Board of Directors is composed of those city agencies in the area of benefit of the FTC and the Eastern Transportation Corridor (ETC). Specifically, the TCA Board of Directors consists of Orange County Supervisors for the 3rd, 4th and 5th Districts and Council Members from the Cities of Mission Viejo, Irvine, San Juan Capistrano, San Clemente, Orange, Anaheim, Santa Ana, Dana Point, Tustin, Yorba Linda, Rancho Santa Margarita and Lake Forest.

The SOCTIIP alternatives will be evaluated pursuant to the California Environmental Quality Act (CEQA) and the National Environmental Policy Act (NEPA). The Federal Highway Administration (FHWA), in coordination with the California Department of Transportation (Caltrans), is the federal lead agency for the Environmental Impact Statement (EIS), pursuant to NEPA and associated federal rules, regulations and Executive Orders. The United States Department of the Navy (DON), Marine Corps Base (MCB) Camp Pendleton is a Cooperating Agency for the EIS under NEPA. The TCA is the lead agency for the SOCTIIP pursuant to CEQA for the Subsequent Environmental Impact Report (SEIR). The California Department of Transportation (Caltrans) is the local assistance agency providing technical support to FHWA for the EIS and is a local responsible agency under CEQA for the SEIR.

Three major categories of alternatives are described in this technical report:

- Build alternatives which propose a southern extension of existing SR 241 from Oso Parkway to I-5 in the vicinity of San Clemente. The northern segment of the FTC, commonly referred to as the FTC-North (FTC-N), is currently operating as a toll facility from Oso Parkway north to the ETC which extends north to State Route 91 (SR 91). A large number of corridor extension alternatives have been developed as described in this technical report. These corridor alternatives would be operated as toll facilities.

- Build alternatives which propose improvements or enhancements to existing I-5 and/or to Master Plan of Arterial Highways (MPAH) arterials in south Orange County.

**Figure 1.1-1 Regional Location
(one page 8.5/11)**

No Action Alternatives under which no corridor alignments, SOCTIIP I-5 or SOCTIIP arterial transportation improvements would be implemented in south Orange County.

The general alignments of the build alternatives are shown on Figure 1.1-2. As shown, the primary corridor alternatives, the Far East Corridor, the Central Corridor and the Alignment 7 Corridor, each include a number of alignment variations.

This technical report describes the following SOCTIIP build alternatives and the No Action Alternatives:

Far East Corridor Alternatives

Far East Corridor-Complete (FEC, formerly referred to as the CP Alignment) - Initial and Ultimate Alternatives
Far East Corridor-Talega Variation (FEC-TV) - Initial and Ultimate Alternatives

Far East Corridor-Cristianitos Variation (FEC-CV) - Initial and Ultimate Alternatives
Far East Corridor-Agricultural Fields Variation (FEC-AFV)-Initial and Ultimate Alternatives
Far East Corridor-Ortega Highway Variation (FEC-OHV)-Initial and Ultimate Alternatives
Far East Corridor-Avenida Pico Variation (FEC-APV)-Initial and Ultimate Alternatives
Far East Corridor-West (FEC-W)-Initial and Ultimate Alternatives
Far East Corridor-Modified (FEC-M)-Initial and Ultimate Alternatives

Central Corridor Alternatives

Central Corridor-Complete (CC, formerly referred to as the BX Alignment)-Initial and Ultimate Alternatives
Central Corridor-Avenida La Pata Variation (CC-ALPV)-Initial and Ultimate Alternatives
Central Corridor-Ortega Highway Variation (CC-OHV)-Initial and Ultimate Alternatives

Alignment 7 Alternatives

Alignment 7 Corridor-Complete (A7C) - Initial and Ultimate Alternatives
Alignment 7 Corridor-7 Swing Variation (A7C-7SV)-Initial and Ultimate Alternatives
Alignment 7 Corridor-Far East Crossover Variation (A7C-FECV)-Initial and Ultimate Alternatives
Alignment 7 Corridor-Far East Crossover (Cristianitos) Variation (A7C-FECV-C)-Initial and Ultimate Alternatives
Alignment 7 Corridor-Far East Crossover (Agricultural Fields) Variation (A7C-FECV-AF)-Initial and Ultimate Alternatives

Figure 1.1-2 Alignments of the Build Alternatives
(one page; 8.5/11)

Alignment 7 Corridor-Ortega Highway Variation (A7C-OHV)-Initial and Ultimate Alternatives
Alignment 7 Corridor-Avenida La Pata Variation (A7C-ALPV)-Initial and Ultimate Alternatives
Alignment 7 Corridor-Far East Crossover-Modified (A7C-FEC-M)-Initial and Ultimate Alternatives

<u>Arterial Improvements Alternatives</u>

Arterial Improvements Only (AIO) Alternative
Arterial Improvements Plus HOV and Spot Mixed-Flow Lanes on I-5 (AIP) Alternative

<u>I-5 Widening Alternative</u>

HOV and Mixed Flows Lanes on I-5 (I-5) Alternative

<u>No Action Alternatives</u>

Based on consideration of the No Action/No Project Alternative requirements under NEPA and CEQA and demographic and land use factors described in detail in Section 4.0, two No Action Alternatives were defined for evaluation in the EIS/SEIR. These Alternatives vary in the number of dwelling units (dus) assumed on the Rancho Mission Viejo (RMV) property and in the on site circulation improvements assumed to support the development on the Ranch. These No Action Alternatives are:

<u>No Action Alternative – OCP-2000</u>: This No Action Alternative assumes:

- Buildout of the Land Use Elements (LUEs) of the General Plans for the cities and unincorporated Orange County.
- Use of the Orange County Projections – 2000 (OCP-2000), the regionally adopted demographic forecasts for Orange County. These forecasts assume buildout development of approximately 21,000 dus on the RMV property by 2025.
- Buildout of the MPAH, with all arterials constructed to their ultimate cross sections consistent with the MPAH.
- Buildout of the Regional Transportation Plan (RTP) improvements in South Orange County.
- No extension of the existing FTC-N south of its existing terminus at Oso Parkway.
- An on site circulation system on the RMV property, to support the 21,000 dus forecasted in OCP-2000. This on site circulation system will be defined conceptually in the traffic analysis.

No Action Alternative – RMV Development Plan. This No Action Alternative assumes:

- Buildout of the LUEs of the General Plans for the cities and unincorporated Orange County.
- OCP-2000 population and employment projections for 2025, with modifications. Under this No Action Alternative, 14,000 dus are assumed to be developed on the RMV, as proposed by the RMV Company, rather than the 21,000 dus in OCP-2000.
- Buildout of the MPAH, with all arterials constructed to their ultimate cross sections consistent with the MPAH.
- Buildout of the RTP improvements in south Orange County.
- No extension of the existing FTC-N south of its existing terminus at Oso Parkway.
- An on site circulation system on the RMV property, to support the 14,000 dus proposed by the RMV Company.

1.2 PROJECT BACKGROUND

The California State Legislature created the TCA in 1986 as a JPA to plan, finance, design, construct and operate a toll highway system in Orange County. The State Legislature's creation of this JPA was key to the success of meeting the County's transportation needs. Virtually no new highway construction had occurred in southern California in the 1980s until revived by TCA's construction programs for the ETC, the FTC-N and the San Joaquin Hills Transportation Corridor (SJHTC).

None of these corridors were provided with federal funding and only nominal state funding was potentially available. As a result, the TCA sought innovative financing alternatives. Tax-free bonds to finance the toll roads were sold to investors, which enabled the TCA to get the required financial backing. Tax-free bonds were issued in March 1993 and September 1997 for the SJHTC and in July 1993 and July 1999 for the ETC. These bonds are non-recourse bonds, which mean the state taxpayer is not at risk for repayment if the TCA is unable to meet its financial requirements. The bonds are repaid using tolls collected on the corridors.

The proposed southern extension of the FTC-N has been the subject of continuing planning efforts for approximately 20 years. This proposed project has been considered by a wide range of local and regional transportation planning agencies including the Southern California Association of Governments (SCAG), the County of Orange, the Orange County Transportation Authority (OCTA), Caltrans, local cities and the TCA. Prior studies completed for the FTC-S include Final EIR 123 certified by the County of Orange in 1981. That EIR resulted in a conceptual alignment for a transportation corridor facility being placed on the County MPAH. The Foothill Transportation Corridor Alternatives Alignment Analysis (County of Orange and the TCA, 1986) identified four alternative alignments to be carried forward for evaluation in an EIR. Between 1989 and 1991, the TCA prepared an EIR (TCA EIR No. 3), pursuant to CEQA, for the selection of a locally-preferred road alignment for the FTC-S. TCA EIR No. 3 addressed the C and BX road alignments, selected as part of the Alternatives Analysis phase of the project, as the primary build alternatives. TCA EIR No. 3 was circulated for a 60-day review period which included public hearings. Written responses to comments and a Supplemental EIR were circulated for public review. The Supplemental EIR addressed changes to the C Alignment through San Onofre State Beach and San Clemente resident concerns regarding potential noise and visual impacts, resulting in the changed C Alignment being named the Modified C Alignment. On October 10, 1991, the Modified C Alignment was selected as the locally-preferred alternative. Subsequently, as a result of coordination with the United States Fish and Wildlife Service (USFWS), the Modified C Alignment was slightly altered to minimize impacts to the Pacific pocket mouse, and to further address resident concerns for potential noise and visual impacts, and was referred to as the "CP Alignment." TCA EIR No. 3 and Supplemental TCA EIR No. 3 are available for review at the offices of the TCA.

In December 1993, the TCA initiated the preparation of a Subsequent SEIR to evaluate the CP Alignment, the BX Alignment and the No-Build Alternative. The CP Alignment is identical to the FEC Alternative described in this technical report. The BX Alignment is identical to the CC Alternative described in this technical report. Concurrently, the NEPA process was initiated when FHWA published a Notice of Intent (NOI) to prepare an EIS (Federal Register, December 16, 1993). Between 1993 and 1996, technical analysis of the CP and BX alignment alternatives and the No Build Alternative was conducted.

Three public scoping meetings for the SOCTIIP were held in Orange and San Diego Counties in March 2001. These meetings sought input from public agencies, members of the general public, stakeholders and other interested parties related to the SOCTIIP alternatives and the overall scope and content of the EIS/SEIR.

FHWA originally published a NOI for the Foothill Transportation Corridor-South EIS/SEIR in the Federal Register on June 4, 1986 (51 F.R. 20398) and again on December 16, 1993. FHWA published a Revised NOI on February 20, 2001 in the Federal Register (66 F.R. 10934) which notified federal agencies that an EIS will be prepared for a proposed transportation improvement in south Orange County and northern San Diego County. The February 2001 NOI described the proposed SOCTIIP alternatives and described the history of the project related to the earlier NEPA and CEQA notices and studies.

FHWA published a Supplemental NOI in the Federal Register on March 14, 2001 (66 F.R. 10934) to inform federal agencies of the dates, times and locations of the three scoping meetings in March 2001.

The public notification and scoping process is described in detail in the "South Orange County Transportation Infrastructure Improvement Project Scoping Summary Report" (**[insert date]**, 2003) which is available for review at the TCA office.

1.3 NEPA/SECTION 404 MEMORANDUM OF UNDERSTANDING

In 1996, as a result of the 1994 NEPA/Clean Water Act (CWA) Section 404 Integration Process for Surface Transportation Projects, FHWA initiated coordination to implement the policies of that Memorandum of Understanding (MOU) in developing the EIS and Section 404 permitting for the SOCTIIP. The NEPA/Section 404 MOU implements the FHWA, United States Army Corps of Engineers (ACOE) and United States Environmental Protection Agency (EPA) policies of improved interagency coordination and integration of the NEPA and Section 404 procedures. The NEPA/Section 404 MOU applies to all projects needing both FHWA action under NEPA and an ACOE individual permit under Section 404 of the CWA. The signatory agencies to the NEPA/Section 404 MOU include FHWA, EPA, ACOE, USFWS, National Marine Fisheries Service (NMFS) and Caltrans. In March 1999, pursuant to the NEPA/Section 404 MOU, a purpose and need statement was approved for the SOCTIIP. The project purpose and need statement is provided later in Section 2.0 (Purpose and Need for the Project).

Between August 1999 and November 2000, the NEPA/Section 404 MOU signatory agencies and the TCA retained a neutral facilitator to assist in developing a list of project alternatives to be evaluated in the EIS/SEIR. It was during this process that the signatory agencies referred to the project as the South Orange County Transportation Infrastructure Improvement Project or SOCTIIP. The NEPA/404 MOU agencies and the TCA are collectively referred to as the "SOCTIIP Collaborative." In November 2000, the SOCTIIP Collaborative concurred on the alternatives to be evaluated in the EIS/SEIR. These alternatives, listed earlier in Section 1.1 (Description of the SOCTIIP Alternatives), are described in detail in Section 4.0 of this report.

1.4 THE USE OF THIS TECHNICAL REPORT

This technical report will be used in two ways:

- It will provide the detailed technical description of the SOCTIIP alternatives for use in preparing technical reports for the environmental analyses. The environmental impact assessment technical reports will include a description of the alternatives from this technical report.

- This technical report will be used to develop the alternatives section for the EIS/SEIR for the SOCTIIP alternatives.

SECTION 2.0
PURPOSE AND NEED FOR THE PROJECT

As part of the South Orange County Transportation Infrastructure Improvement Project (SOCTIIP) Collaborative, the Collaborative member federal regulatory agencies developed and adopted the purpose and need statement provided in this Section. The Federal Highway Administration (FHWA), the lead agency for the SOCTIIP environmental document under the National Environmental Policy Act (NEPA) and a member of the Phase I Collaborative, adopted this purpose and need statement provided in this Section. This process provided the concurrence on the Purpose and Need that is called for in the NEPA/Section 404 Memorandum of Understanding (MOU). This was consistent with the NEPA/Section 404 Integration process for Surface Transportation Projects NEPA/404 MOU process for the Environmental Impact Statement/Subsequent Environmental Impact Report (EIS/SEIR) for the SOCTIIP.

The project purpose and need statement prepared by the SOCTIIP Phase I Collaborative and as adopted by FHWA is provided below, as shown in *italics*.

2.1 NEED FOR THE PROJECT

Transportation infrastructure improvements are necessary to address needs for mobility, access, goods movement and projected freeway capacity deficiencies and arterial congestion in south Orange County. Freeway capacity deficiencies and arterial congestion are anticipated as a result of projected traffic demand, which will be generated by projected increases in population, employment, housing and intra- and inter-regional travel estimated by the Southern California Association of Governments (SCAG) and the San Diego Association of Governments (SANDAG).

2.1.1 FUTURE TRAVEL DEMAND

Traffic projections and analysis for 2020 indicate that Interstate 5 (I-5) will be operating at a deficient level of service (LOS) as defined by Caltrans as shown in Table 2.1-1. Table 2.1-2 provides a brief description of road operating conditions under LOS A through LOS F. Figure 2.1-1 shows a visual representation of these different LOSs. Additional discussion regarding LOS considerations are provided in Table 2.1-3. In the study area, the deficient LOS extends from Alicia Parkway to the Orange/San Diego County line, a distance of approximately 18 miles. Table 2.1-1 represents the sum of all the deficient links on I-5 south of Alicia Parkway to the County line.

The 2020 traffic projections assume full implementation of the Orange County Master Plan of Arterial Highways (MPAH), improvements to I-5 such as high occupancy vehicle (HOV) lanes between State Route 1 (SR 1, Pacific Coast Highway) and Avenida Pico, and arterial highway improvements.

LOS F(0) represents a vehicle-to-capacity ratio between 1.00 and 1.25, causing a spreading of the peak period and up to one hour of stop and go traffic, which is experienced by each vehicle on the freeway. LOS F(1) represents a vehicle-to-capacity ratio between 1.26 and 1.35, causing a spreading of the peak period of between one and two hours of stop and go traffic. LOS F(2) represents a vehicle-to-capacity ratio between 1.36 and 1.45, causing a spreading of the peak *period of between two and three hours of stop and go traffic. The projected future deficient LOS will result in tens of thousands of vehicle hours of delay per day. In addition to deficiencies on I-5, various arterial highway intersections and segments of the arterial highway network in the study area are projected to operate at deficient LOS as defined by the local jurisdictions. The 2020 deficient locations including I-5 and the arterial network are shown on Figure 2.1-2.*

2.2 PURPOSE OF THE PROJECT

The purpose of the SOCTIIP is to provide improvements to the transportation infrastructure system that would help alleviate future traffic congestion and accommodate the need for mobility, access, goods movement and future traffic demands on I-5 and the arterial network in the study area. The following are objectives in implementing the project purpose:

- *Improve the projected future LOS and reduce the amount of congestion and delay on the freeway system and, as a secondary objective, the arterial network, in southern Orange County. The overall goal is to improve projected levels of congestion and delay as much as is feasible and cost effective. This may include strategies which lead to a reduction in the length of time LOS F will occur, even if the facility will still operate at LOS F for a short period of time, if the strategy will result in benefits to the traveling public and more efficient movement of goods because it reduces total delay.*

2.3 REGIONAL PLANNING CONTEXT

The Regional Transportation Plan (RTP) prepared by SCAG is illustrative of the local desire for transportation system improvements to help satisfy future traffic demand in south Orange County and to achieve SCAG's long range transportation planning goals to reduce traffic congestion and make regional air quality improvements. This conclusion is based on over 20 years of detailed study and analysis.

The RTP, developed in accordance with established federal requirements and policies, sets forth a multi-modal, financially achievable planning direction for southern California, including Orange County. It presents policies and improvements needed for meeting mobility goals over the next 20 years, taking into account anticipated population growth and economic developmental factors. The RTP is required by the Clean Air Act to be in conformity with the State Implementation Plan for air quality. The Federal Highway Administration (FHWA) and the Federal Transit Administration (FTA) issued their conformity findings for the SCAG RTP in June 1998. [The RTP was updated in 2001 and FHWA made a conformity finding for the 2001 RTP in June 2001. Refer to Section 4.1.5.2 for discussion of this current adopted RTP.]

The RTP may be amended to substitute other types of transportation improvements, in any location, to satisfy future mobility goals. The SOCTIIP alternative ultimately selected to achieve the purpose defined earlier will be included in the RTP.

2.4 FACTORS TO BE CONSIDERED IN THE ANALYSIS OF THE ALTERNATIVES

Balanced treatment will be given to all the SOCTIIP alternatives with respect to achievement of the above objectives, contribution to achieving regional air quality improvements, impacts on the natural and urban environment, feasibility and cost.

TABLE 2.1-1
DISTANCE OF DEFICIENT LEVEL OF SERVICE ON I-5 IN 2020

	LOS F(0)	LOS F(1)	LOS F(2)	Total
AM Peak	18.15 km (11.28 mi)	8.85 km (5.50 mi)	1.48 km (0.92 mi)	28.49 km (17.7 mi)
PM Peak	15.82 km (9.83 mi)	2.33 km (1.45 mi)	10.33 km (6.42 mi)	28.49 km (17.7 mi)

Source: Phase I Collaborative.

FIGURE 2.1-1
LEVEL OF SERVICE REPRESENTATIONS
[ONE PAGE]

TABLE 2.1-2
DESCRIPTIONS OF THE LEVEL OF SERVICE

Level of Service A	*LOS A indicates no physical restriction on operating speeds.*
Level of Service B	*LOS B indicates stable flow with few restrictions on operating speeds*
Level of Service C	*LOS C indicates stable flow, higher vehicle volumes and more restrictions on speeds and the ability to change lanes.*
Level of Service D	*LOS D indicates approaching unstable flow, little freedom to maneuver and intolerable conditions for short periods.*
Level of Service E	*LOS E indicates unstable flow, lower operating speeds than under LOS D and some momentary stoppages.*
Level of Service F	*LOS F indicates forced flow operation at low speeds where the highway acts as a storage area and there are many stoppages.*

Source: County of Orange General Plan Appendix IV-1 (GMP Transportation Implementation Manual) (March 15, 1994) page 35.

TABLE 2.1-3
LEVEL OF SERVICE CONSIDERATIONS
CALIFORNIA STATE HIGHWAY PLANNING

Level of Service. Level of service (LOS) is a qualitative measure describing operational conditions within a traffic stream and their perception by drivers and/or passengers. Typically six LOSs are defined from "A" (no delay) to "F" (stop and go conditions). The LOSs between A and F represent various levels of decreasing LOSs (B to E) such that the freedom to maneuver is limited, speeds decrease and delay increases in moving through the road section. LOS is defined in the Highway Capacity Manual (HCM). The HCM is developed by the Transportation Research Board under the National Research Council and is the basis for nationwide traffic analysis standards.

Caltrans Guidance on Level of Service. Caltrans does not have a written policy establishing LOSs for state highways. The Caltrans Highway Design Manual, which is essentially guidance based on the American Association of State and Highway Transportation Officials (AASHTO) standards, specifies that for purposes of design (engineering) considerations the LOS for all urban freeways should be between LOS C and E depending on the twenty year traffic projections. LOS C is stable traffic flow, however the driver experiences less freedom in maneuvering between lanes. LOS E is close to the maximum the capacity of the road, there is essentially no freedom to maneuver and speeds are low.

In addition to the Design Manual standards, Caltrans' system planning process examines existing operation traffic service levels on state highways, forecasts projected service levels based on population and employment growth, and then sets a future twenty year concept LOS for the state highway based on multiple considerations. The concept LOSs are basically a "strategy" for operating the state highway and planning for future highway improvements. Caltrans desires that under ideal circumstances all urban freeways operate at least at LOS D. While this is desirable and consistent with the Design Manual, in major urban settings environmental, neighborhood or cost considerations may make achieving LOS D infeasible.

In its system planning, Caltrans recognized that the length of time undesirable conditions may exist is of significance. Therefore, Caltrans has developed a convention of characterizing LOS F into four sub-categories. These begin with LOS F(0) in which the LOS F conditions exist for less than one hour, to LOS F(3), where the conditions exist for more than three hours. In the system planning process, Caltrans will accept strategies which lead to a reduction in the length of time LOS F will occur, even if the facility will still operate at LOS F for a period of time, if the strategy will indeed achieve significant benefits to the traveling public and movement of goods because it reduces the total numbers of hours of delay. For example, a strategy of improving LOS from F(1) to F(0) will eliminate one full hour of stop and go traffic and result in quantifiable reductions in the total numbers of hours of delay for drivers and passengers on the route. It will also reduce delay time for delivery of goods and movement of freight, all of which have economic considerations to the state.

Source: Phase I Collaborative.

Insert Figure 2.1.2
2020 Highway Deficiencies with the No Action Alternative (Long Range)
[one page]

SECTION 3.0
PROJECT LOCATION AND OVERVIEW

3.1 PROJECT LOCATION

Figure 1.1-1, provided earlier, shows the regional location of the project area, in south Orange County and north San Diego County. Figure 1.1-2, provided earlier, shows the general alignments of the South Orange County Transportation Infrastructure Improvement Project (SOCTIIP) build alternatives in south Orange County. As shown, the study area extends across much of south Orange County, from the confluence of Interstate 5 (I-5)/Interstate 405 (I-405) south and east to northern San Diego County. The alignments of the build alternatives cross or are adjacent to the Cities of San Clemente, San Juan Capistrano, Lake Forest, Mission Viejo, Irvine, Rancho Santa Margarita, Laguna Hills, Laguna Woods, Dana Point and Laguna Niguel; unincorporated Orange and San Diego Counties; and the north part of Marine Corps Base (MCB) Camp Pendleton as shown in Figure 3.1-1.

This Section briefly describes the historical development of these communities in the SOCTIIP study area. Detailed information regarding past and forecasted development in this area is provided in Section 4.3 (No Action Alternative).

3.2 OVERVIEW OF THE SOCTIIP STUDY AREA

The SOCTIIP is proposed in an area which has experienced relatively rapid development over the last 20 years. The rapid growth in south Orange County occurred predominately from the mid-1980s to the mid-1990s, as shown by the number of newly incorporated cities in south Orange County over this period. With the exception of the Cities of Laguna Beach, San Clemente and San Juan Capistrano, nearly all the other cities in south Orange County were incorporated after 1980. These include the Cities of Lake Forest, Mission Viejo, Laguna Hills, Dana Point, Laguna Niguel, Laguna Woods, Rancho Santa Margarita and Aliso Viejo. In addition, the growth and annexation patterns for the Cities of San Juan Capistrano and San Clemente over the last 20 years have extended predominately inland, toward undeveloped areas.

3.2.1 EVOLUTION OF INDIVIDUAL CITIES IN SOUTH ORANGE COUNTY

In Orange County, until an area incorporates and becomes a city, that area is under the jurisdiction of the County of Orange with political representation by the County of Orange Board of Supervisors. When an area becomes a city, it is then represented by the local electorate, usually a City Council elected by the residents of the newly established city.

The newly incorporated cities in south Orange County were originally areas under the planning direction and authority of the County of Orange. Virtually all these areas were ranches, farms or both within the last 20 to 30 years, some with small communities supporting those operations. Based on land use plans consistent with the County's General Plans and Specific Plans for individual areas, these lands were then subdivided and developed. As these communities matured and built out across south Orange County, local desires lead to the establishment of separate, incorporated municipalities.

Figure 3.1-1
Local Jurisdictions and other uses in the SOCTIIP Study Area
(one page; 8.5/11)

In summary, the majority of development in the SOCTIIP area represents the substantial growth in the last two decades of the 20th century, based on development plans initially defined in the Orange County General Plan and later in the individual local jurisidictions' General Plans.

3.2.2 DEVELOPMENT TRENDS IN THE SOCTIIP AREA

A number of factors affect growth in southern Orange County including housing demand and population growth due to both births and immigration. Observing these factors, it is reasonable to expect that the currently undeveloped lands in the study area, specifically Rancho Mission Viejo (RMV) will be developed at some time in the near future. The Orange County Projections 2000 (OCP-2000), the regionally adopted demographic forecasts for Orange County, project 21,000 dwelling units (dus) and an additional 23,000 jobs on the 10,125 hectare (ha, 25,000 acre (ac)) RMV property by 2025. On July 19, 2001 the RMV Company announced its development plan for the RMV site, including 14,000 dus, 5,670 ha (14,000 ac) of open space and a 891 ha (1,200 ac) park. In either case, under either OCP-2000 or the RMV plan, substantial development on the Ranch is forecast.

The planned communities of Coto de Caza (unincorporated Orange County), Talega (Champion Hills/Rolling Hills; unincorporated and City of San Clemente), Ladera (unincorporated Orange County) and Forster Ranch (City of San Clemente) are adjacent to or in the vicinity of the RMV site. Coto de Caza is nearly built out. Ladera and Talega are projected to be built out by 2007. The Forster Ranch Planned Community is expected to be built out by 2005. These are all approved developments that are building out to their approved, planned levels of residential, commercial, open space and other uses.

SECTION 4.0
ALTERNATIVES EVALUATED IN THE EIS/SEIR

4.1 INTRODUCTION

4.1.1 PURPOSE

This Section provides background information regarding existing and forecast land use conditions in Orange County, and describes the build and No Action Alternatives to be addressed in the Environmental Impact Statement/Supplemental Environmental Impact Report (EIS/SEIR) for the proposed South Orange County Transportation Improvement Project (SOCTIIP). The alternatives to be addressed in the EIS/SEIR include transportation improvement and No Action Alternatives. All the alternatives will be evaluated at an equal level of detail in the EIS/SEIR.

The transportation improvement alternatives propose the widening of Interstate 5 (I-5), arterial road improvements with and without widening I-5, and toll road corridors which would be southern extensions of existing State Route 241 (SR 241), the Foothill Transportation Corridor-North (FTC-N). The FTC is one of three existing Orange County toll road corridors operated by the Transportation Corridor Agencies (TCA). The northern segment of existing SR 241 begins at an interchange with Oso Parkway and extends north to State Route 91 (SR 91) in northeast Orange County. The toll road corridor alternatives would extend SR 241 south from its existing terminus at Oso Parkway to approximately the Orange/San Diego County border.

Figures and tables supporting the alternatives descriptions are provided following the last page of text in this Section.

4.1.2 ALTERNATIVES FROM EARLIER PHASES

The southern extension of existing SR 241, referred to as the FTC-South (FTC-S), has been subject to planning efforts for approximately 20 years and has been considered by a wide range of local and regional transportation planning agencies including the Southern California Association of Governments (SCAG), the County of Orange, the Orange County Transportation Authority (OCTA), Caltrans, local jurisdictions and the TCA. Prior studies completed for the FTC-S include:

- Final EIR 123 was certified by the County of Orange in 1981 and resulted in a conceptual alignment for a transportation corridor facility being placed on the County's Master Plan of Arterial Highways (MPAH). The MPAH shows the alignment of the existing FTC-N and a conceptual alignment for the FTC-S.

- The <u>Foothill Transportation Corridor Alternatives Alignment Analysis</u> (County of Orange and the TCA, 1986) identified four alternative alignments to be carried forward for evaluation in an EIR.

- Between 1989 and 1991, the TCA prepared an EIR (TCA EIR 3), pursuant to the California Environmental Quality Act (CEQA), for the selection of a locally preferred road alignment for the FTC-S. TCA EIR 3 addressed the C and BX road alignments, developed as part of the alternatives analysis phase of the project, as the primary build alternatives. TCA EIR 3 was circulated for a 60-day review period which included public hearings. Written responses to comments and a Supplemental EIR were circulated for public review. The Supplemental EIR addressed changes to the C Alignment through San Onofre State Beach, as well as San Clemente resident concerns related to noise and visual impacts, resulting in a slightly modified alignment referred to as the Modified C Alignment. On October 10, 1991, the Modified C Alignment was selected by the TCA as the locally preferred alternative. Subsequently, at the request of the United States Fish and Wildlife Service (USFWS), the Modified C Alignment was slightly altered to avoid high quality scrub communities, protect sensitive species and wildlife movement in the Sulfur Canyon area and minimize impacts to the Pacific pocket mouse. As a result of these changes, this alignment was then renamed the CP Alignment. TCA EIR 3 and Supplemental TCA EIR 3 are on file at the TCA.

In December 1993, the TCA initiated preparation of a Subsequent EIR to evaluate the CP and BX alignments and the No Action Alternative. Concurrently, the Federal Highway Administration (FHWA) initiated the preparation of an EIS and issued a Notice of Intent to prepare an EIS (Federal Register, December 16, 1993). Between 1993 and 1996, technical analysis of the CP and BX alignment alternatives and the No Action Alternative was conducted for that EIS/Subsequent EIR. The 1993 EIS/SEIR process was not completed and has been superceded by the current EIS/SEIR.

Three public scoping meetings for the SOCTIIP were held in Orange and San Diego Counties in March 2001. These meetings sought input from public agencies, members of the general public, stakeholders and other interested parties related to the SOCTIIP alternatives and the overall scope and content of the EIS/SEIR.

FHWA originally published a NOI for the Foothill Transportation Corridor- South EIS/SEIR in the Federal Register on June 4, 1986 (51 F.R. 20398) and again on December 16, 1993. FHWA published a Revised NOI on February 20, 2001 in the Federal Register (66 F.R. 10934) which notified federal agencies that an EIS will be prepared for a proposed transportation improvement in south Orange County and northern San Diego County. The February 2001 NOI described the proposed SOCTIIP alternatives and described the history of the project related to the earlier NEPA and CEQA notices and studies.

FHWA published a Supplemental NOI in the Federal Register on March 14, 2001 (66 F.R. 10934) to inform federal agencies of the dates, times and locations of the three scoping meetings in March 2001.

The public notification and scoping process is described in detail in the "South Orange County Transportation Infrastructure Improvement Project Scoping Summary Report" (April, 2003) which is available for review at the TCA office.

4.1.3 ALTERNATIVES FROM THE NEPA/404 INTEGRATION PROCESS

In 1996, as a result of the 1994 National Environmental Policy Act and Clean Water Act Section 404 Integration Process Memorandum of Understanding (NEPA/Section 404 MOU), the TCA initiated coordination to implement the MOU policies in developing the EIS and Section 404 permitting for the project. The NEPA/Section 404 MOU implements the FHWA, United States Army Corps of Engineers (ACOE) and United States Environmental Protection Agency (EPA) policies of:

(1) improved interagency coordination, and

(2) integration of the NEPA and Section 404 procedures.

The NEPA/Section 404 MOU applies to all projects requiring FHWA action under NEPA and an ACOE individual permit under Section 404 of the Clean Water Act. The signatory agencies to the NEPA/Section 404 MOU for the SOCTIIP include FHWA, EPA, ACOE, USFWS, the National Marine Fisheries Service (NMFS) and Caltrans. In March 1999, pursuant to the NEPA/Section 404 MOU, a Purpose and Need Statement was approved by FHWA for the project. That Purpose and Need Statement was provided earlier in Section 2.0 (Purpose and Need for the Project).

Between August 1999 and November 2000, the NEPA/Section 404 MOU signatory agencies and the TCA participated in an objective facilitated process to complete the next stages of the integrated process to specifically develop a list of alternatives to be evaluated in the current EIS/SEIR. It was during this process that the signatory agencies began referring to the project as the South Orange County Transportation Infrastructure Improvement Project. The NEPA/404 MOU signatory agencies and the TCA are collectively referred to as the SOCTIIP Collaborative. In November 2000, the SOCTIIP Collaborative concurred on the alternatives to be evaluated in the current EIS/SEIR. These alternatives are the toll road corridor, arterial, I-5 and No Action alternatives described in detail in this Section.

4.1.4 OVERVIEW OF THE ALTERNATIVES FOR THE EIS/SEIR

The proposed project involves locating, constructing and operating transportation improvements in south Orange County and north San Diego County. The alternatives under consideration consist of transportation improvement alternatives, two No Action Alternatives and several No Action scenarios. The transportation improvement alternatives include widening of I-5, arterial road improvements with and without widening I-5, and toll road corridors which would be southern extensions of the existing FTC-N. The corridor alternatives would extend the FTC south from its existing terminus at Oso Parkway to approximately the Orange/San Diego County border.

Two major categories of build alternatives are described in this Section:

- Build alternatives which propose a southern extension of the existing FTC in south Orange County. The corridor extension alternatives to be evaluated in the EIS/SEIR propose the extension of the existing FTC south from Oso Parkway to I-5 in the vicinity of the Orange/San Diego County line. This proposed segment of the corridor is frequently referred to as the FTC-South or FTC-S. The corridor alternatives all propose extension of existing SR 241 south of Oso Parkway, to I-5 or to an intersecting arterial south of Oso Parkway. There are three primary alignments for the corridor alternatives; combinations and variations of these alignments result in the identification of a total of 16 corridor alternatives. In addition, as described in detail later in this Section, each corridor alternative is proposed as an initial corridor alternative and an ultimate corridor alternative. The initial corridor alternatives would be permitted and constructed based on future traffic demand through 2025. The ultimate corridor alternatives, with a wider cross section, are not anticipated to be needed or constructed until 2025 or later, based on forecasted traffic demand. The initial corridor alternatives would result in lower construction costs because the TCA would only finance and construct the road facility that is needed through 2025. The initial corridor alternatives would also result in smaller disturbance limits which would result in reduced environmental impacts. The ultimate corridor alternatives would be built after 2025 and will be evaluated in the EIS/SEIR in order to determine the extent of impacts associated with the wider ultimate cross sections. The TCA anticipates seeking environmental permits and constructing only the initial corridor alternatives. Additional permits would be required when the ultimate corridor alternatives are constructed sometime after 2025.

- Build alternatives which propose improvements to existing I-5 and/or to MPAH arterials in south Orange County and north San Diego County. The I-5, AIO and AIP Alternatives do not include any extension of existing SR 241 south of Oso Parkway.

In addition, two No Action Alternatives and several No Action scenarios, with different land use and transportation system assumptions, are also described in detail in this Section.

Table 4.1-1 lists the corridor, I-5, arterial and No Action Alternatives and their acronyms. Figure 4.1-1 shows conceptual alignments for the build alternatives.

As part of the SOCTIIP Collaborative process, the Collaborative members reviewed the alternatives evaluated in the technical reports and identified those alternatives to be carried forward into the EIS/SEIR and those alternatives that would not be advanced for detailed discussion in the EIS/SEIR. The alternatives advanced for detailed evaluation in the EIS/SEIR, based on decisions by the Collaborative in July and August 2003, are shown in *italics* in Table 4.1-1. The EIS/SEIR includes a detailed discussion of the Collaborative decision making process and the reasons why the rejected alternatives were not advanced for detailed evaluation in the EIS/SEIR.

4.1.5 BACKGROUND INFORMATION AND ASSUMPTIONS

4.1.5.1 Master Plan of Arterial Highways

The MPAH is a countywide streets and highways plan for Orange County that focuses on arterial highways. The MPAH shows the existing and proposed arterial components of the countywide circulation system. The MPAH map shows the existing and proposed freeway and tollway circulation components but does not define their characteristics. These existing and proposed arterial street components are designated in the Orange County MPAH and in local jurisdictions' General Plan Circulation Elements. Categories of arterial roads shown on the MPAH and in the Circulation Elements are principal, major, primary, secondary and collector. The MPAH is updated periodically by the OCTA based on input from the local jurisdictions in Orange County and on adopted land use plans and growth forecasts. The MPAH was last updated in December 2000. The MPAH has not been updated since the adoption of the most recent demographic projections for Orange County, the Orange County Projections-2000 (OCP-2000). It is not known at this time what, if any, changes to the MPAH may be proposed based on the OCP-2000 projections or development plans in south Orange County. As discussed in detail later in this Section, the OCP-2000 projections assume 21,000 dus on the RMV property, versus the 6,250 dus that could be constructed on that property under the existing General Plan. In addition, in 2001, the RMV Company announced its proposed development plan for the RMV property, including 14,000 dus. Because there are currently no entitlements for any development plans for the RMV, it is not known how, or if, the MPAH may be modified based on either the OCP-2000 projections or future development plans for the RMV.

A major role served by the MPAH in regional transportation planning is related to the distribution of funds by the OCTA for arterial improvements. A local jurisdiction's General Plan Circulation Element must be consistent with the MPAH in order for that jurisdiction to receive funding from the OCTA for many types of arterial improvements. As a result of this funding connection, the majority of local jurisdictions' General Plan Circulation Elements are consistent with the MPAH. Inconsistencies are corrected by amendments to the applicable Circulation Element, including environmental clearance, followed by amendment of the MPAH itself. Although the MPAH and the disbursement of funds for its implementation are overseen by the OCTA, it is the responsibility of each local jurisdiction to implement the MPAH within its corporate boundary.

From the standpoint of the description and analysis of the SOCTIIP, there are three important milestones regarding the MPAH: existing, committed and build out, which are defined as follows:

Existing MPAH. This is the basis for comparison of the existing conditions to any future condition scenario. For the SOCTIIP EIS/SEIR and the traffic analysis, the existing MPAH road network is the road network in place in early 2001. All the build alternatives and both No Action Alternatives assume that the road system in the SOCTIIP area in 2001 is the existing MPAH road network operational in 2001 as shown in Figure 4.1-2.

Committed MPAH. This is the existing MPAH road system plus those MPAH improvements which are currently included in a funding program and which are anticipated to be constructed in the near future. These are defined as improvements included in a Capital Improvement Program (CIP) adopted by the County of Orange or a local city. Improvements that will be built prior to 2025 by a specific funding source are also included in the committed highway network. In addition, improvements that are part of conditions of approval for approved development that is included in the long range demographic data forecasts are also assumed to be committed. The committed MPAH highway system is shown on Figure 4.1-3.

MPAH Build Out. This is build out of the MPAH road system as shown on the adopted MPAH. This includes build out of all the MPAH facilities to their ultimate MPAH designations (principal, major, primary, secondary, collector). Figure 4.1-4 defines the improvements assumed for build out of the MPAH in the SOCTIIP study area.

4.1.5.2 Regional Transportation Plan

The Regional Transportation Plan (RTP) is prepared by SCAG pursuant to the federal Transportation Equity Act for the 21st Century (TEA-21), the state and federal Clean Air Acts and the Lewis-Presley Air Quality Management Act. The RTP sets forth the six county region's long range transportation master plan, outlines the region's 25 year policy plan for meeting mobility goals and identifies the master funding list for all transportation improvements needed to meet those goals. Regionally significant projects must be included in the RTP to be eligible for federal or state funding and/or approvals. The 2001 RTP is based on and accommodates population, housing and employment projections prepared by SCAG, which are based on local agency General Plans and on detailed demographic studies of national and state trends, immigration, economic conditions and other factors.

SCAG adopted the current RTP in April 2001. FHWA made a positive conformity finding and approved the 2001 RTP in June 2001. The SOCTIIP is represented in the 2001 RTP as follows:

- The FTC-S is listed in the baseline network of transportation projects as SR 241 from Oso Parkway to I-5, with two mixed flow lanes in each direction by 2005 and two additional mixed flow lanes in each direction, plus climbing and auxiliary lanes, as required, by 2015.
- The FTC-S is mapped as a programmed part of the regional transportation network baseline.
- The FTC-S is assumed in the modeling for the RTP including the air quality conformity modeling.

The RTP provides a long range circulation plan for the regional circulation system. SCAG administers the RTP for this part of California, including Orange County. The RTP focuses on regional transportation improvements such as freeway widenings, new ramps, etc. The specific RTP improvements assumed in the SOCTIIP area are shown on Figure 4.1-4.

As defined in the RTP, the FTC-S is described as an extension of SR 241 from Oso Parkway to I-5. Therefore, it is assumed that any SOCTIIP alternative which proposes an extension of SR 241 from Oso Parkway to I-5 would be consistent with the FTC-S as defined in the RTP. Any SOCTIIP alternative which proposes improvements other than to SR 241 (arterial and I-5 improvements) or which does not extend SR 241 to I-5 would not be considered to be consistent with the definition of the FTC-S as included in the RTP.

4.1.5.3 General Plan Land Use Elements

The Land Use Element (LUE) of a local jurisdiction's General Plan describes existing permitted land uses in developed areas and provides a blueprint for the development of currently undeveloped areas in that jurisdiction. LUEs represent overall land uses anticipated in each jurisdiction. LUEs are one of seven required General Plan Elements and are part of the process for developing regional demographic projections. LUEs are amended by local jurisdictions on a regular basis and can be amended up to four times a year. The LUE must be internally consistent with all other Elements in the General Plan, especially the Circulation Element.

The LUEs for the SOCTIIP study area include land that is identified in a holding designation until a specific development proposal is submitted by the owner or developer. That future land use would require an amendment of the LUE to delete the holding designation and implement the proposed designation. This type of land use holding designation is shown in the Orange County General Plan LUE on the majority of the currently undeveloped parts of RMV in south Orange County. Approximately 10,125 hectares (25,000 acres) of RMV lands are in unincorporated County of Orange jurisdiction and are shown in a land use holding designation. Most of the undeveloped parts on RMV are designated (5) Open Space in the County LUE and are mostly zoned A1 (General Agriculture). These land use designations allow one du per every 1.62 hectares (four acres). Based on this land use designation, approximately 6,250 dus (25,000 acres divided by four dus per acre) could be constructed on the RMV under the existing LUE. As of April 2002, no entitlements have been obtained for residential uses on this part of the RMV under the existing County General Plan LUE and Zoning Code. On July 19, 2001, the RMV Company announced its proposed plan for the RMV. That plan proposes 14,000 dus, 5,670 hectares (14,000 acres) of open space including 4,050 hectares (10,000 acres) of continuing ranch operations, and a 486 hectare (1,200 acre) public park along Ortega Highway (Los Angeles Times, Orange County Edition, July 20, 2001, page B-1). In March 2003, the County of Orange distributed a Notice of Preparation of an Environmental Impact Report for the Ranch Plan. As of September 2003, this plan has not been entitled or adopted by the County of Orange.

The Orange County Zoning Code defines A1 zoning as follows (Sec. 7-9-55.1):

> "The A1 District is established to provide for agriculture, outdoor recreational uses, and those low intensity uses which have a predominately open space character. It is also intended that this district may be used as an interim zone in those areas which the general plan may designate for more intensive urban uses in the future."

The A1 zoning designation would allow a property owner to propose higher density and/or different uses for a property. If the property owner were to pursue different uses for a property, a LUE amendment and zoning code amendment would likely be required. Based on the existing LUE and zoning designations for RMV, approximately 6,250 dus could be developed on the site.

Two major land developments in the SOCTIIP study area are currently entitled based on approved permits and/or subdivision maps and some phases of these projects are occupied and under construction. These are the Talega/Rolling Hills Planned Community (PC) in unincorporated Orange County and the City of San Clemente, and the Ladera Ranch PC in unincorporated Orange County. These PCs are currently entitled for a total of 13,065 dus, with 4,965 dus in Talega and 8,100 dus in Ladera. Build out of both PCs is forecast by 2007. Other major developments in the study area include the Las Flores PC (unincorporated County; built out), the Coto de Caza Specific Plan (unincorporated County; nearly built out), Forster Ranch (City of San Clemente; partially built out) and the Marblehead Coastal Specific Plan (City of San Clemente; in permit approval process). existing and planned land uses and General Plans in the study area are described in detail in the Land Use Technical Report.

4.1.5.4 OCP-2000 Projections

The official growth projections for Orange County are the OCP-2000 projections prepared by the Center for Demographic Research at the California State University Fullerton (CSUF). These projections are prepared with substantial input from the local jurisdictions and are then adopted by the Orange County Council of Governments Board of Directors, a subcommittee of the California League of Cities. The period covered by the OCP-2000 projections is 2000 to 2025.

The OCP-2000 projections provide forecasts of growth for all of Orange County. Forecasts are also provided for smaller geographic units referred to as Regional Statistical Areas (RSAs) and Community Analysis Areas (CAAs). RSAs are consolidations of CAAs. The SOCTIIP study area is covered by two RSAs consisting of a total of 13 CAAs. The CAAs in Orange County are shown on Figure 4.1-5. Table 4.1-2 provides the OCP-2000 population and employment projections for the CAAs in the SOCTIIP study area for 2000 and 2025. The Talega and Ladera PCs and the undeveloped parts of RMV are predominately in CAAs 59, 60 and 70. As shown in Table 4.1-2, over 76 percent of the total increase in dus in the SOCTIIP study area CAAs over the next 25 years is projected to occur in these three CAAs.

4.1.5.5 Comparison of LUEs and OCP-2000

The land use assumptions in the adopted General Plan LUEs and the land uses assumed for the growth projections in OCP-2000 are not completely consistent. Specifically, as shown in Table 4.1-3, OCP-2000 assumes a total of approximately 65,916 dus in CAAs 59, 60 and 70 in 2025, an increase of over 35,888 dus from 2000. As shown in Table 4.1-4, under the existing LUEs, a maximum of 6,250 units could be assumed for RMV and a total of 13,065 dus are entitled in the Talega and Ladera PCs. OCP-2000 assumes an additional 14,750 dus will be developed on the RMV by 2025. As shown on Table 4.1-4, the OCP-2000 projections assume substantial growth in these three CAAs, based on input from local jurisdictions and area property owners.

As shown in Table 4.1-4, approximately 21,000 of the 35,888 additional dus projected in OCP-2000 in CAAs 59, 60 and 70 are assumed to be on RMV. This is a substantial increase (14,750 dus) over the 6,250 dus that could be developed on that site based on the existing General Plan LUE. The estimated total of 21,000 dus on RMV is based on review of the distribution of the 35,888 dus in CAAs 59, 60 and 70. Each CAA is divided into traffic analysis zones (TAZs). Adding the estimated dus in each TAZ within the boundary of the RMV property results in a total of approximately 21,000 of the total 35,888 dus forecast in these CAAs on RMV. This growth forecasting is consistent with the County's projection process because it reflects possible growth in the future that may occur in areas currently in holding designations in the local LUEs.

As shown in Table 4.1-3, OCP-2000 forecasts an increase of 35,888 dus in CAAs 59, 60 and 70 by 2025. Table 4.1-3 indicates that a total of 34,065 dus could be developed in CAAs 59, 60 and 70 based on a total of 13,065 entitled dus in the Talega and Ladera PCs, 6,250 dus on RMV under the General Plan and the additional 14,750 dus assumed for RMV in OCP-2000. As shown in Table 4.1-3, there is only a minor difference in the total numbers of dus in these three CAAs under OCP-2000 and as currently entitled/shown in the General Plan with the additional 14,750 dus assumed for RMV in OCP-2000. As described later, No Action scenarios are proposed for some impact analyses which either omit the entire 21,000 dus on the RMV property or which omit those 21,000 dus and add back in the 14,000 dus proposed in July 2001 by the RMV Company. This provides for a range of possible land use scenarios in the SOCTIIP study area.

4.1.5.6 Transit

Existing Transit Facilities and Services in the SOCTIIP Study Area

Transit services in the SOCTIIP study area consist of public bus, paratransit (for senior and disable patrons), commuter rail and intercity rail services. Public bus and paratransit services are provided by the OCTA in Orange County and by the North County Transit District (NCTD) in northern San Diego County. Greyhound offers regular and charter bus services in Orange and San Diego Counties. Metrolink provides commuter rail service throughout southern California, including Ventura, Los Angeles, San Bernardino, Riverside, Orange and San Diego Counties. Amtrak intercity trains serve the study area. These existing transit services and facilities supporting them are described in the following sections.

OCTA Public Bus Services

The OCTA public bus services in Orange County include regular fixed route operations and shared-ride paratransit service. The fixed route bus network consists of a countywide network of local, short turn, rail connector (StationLink) and express routes. Figure 4.1-6 shows the OCTA fixed route bus network in the SOCTIIP study area.

Fixed Route Bus Service. The general characteristics of the OCTA fixed route bus service in the SOCTIIP study area and the rest of Orange County are:

- Regular local bus services operate on fixed timetables throughout the day, with different schedules for weekdays and weekends/holidays. Regular OCTA bus services have route numbers below 200.

- Short turn services are extra bus trips operated along segments of regular local routes with high demand. These services may not start at the beginning or go to the end of the route. Short turn trips are identified by "ST" on the headsign in front of the bus.

- Express services are generally long distance, limited stop services which operate on freeway segments along part of the routes. Local express routes are identified by route numbers in the 200-series. Regional express services to Los Angeles and Diamond Bar are identified by bus routes in the 700-series. Express services generally operate only during the weekday AM and PM peak commute hours.

- Rail connector routes, named StationLink, provide free connecting bus services to and from rail stations in Orange County. These services are identified by route numbers in the 400-series. These bus services are specifically scheduled to meet arriving and departing Metrolink and Amtrak commuter trains.

OCTA bus routes generally converge at transportation centers and transit terminal facilities throughout Orange County. These facilities typically have passenger amenities and may include parking for use by park-and-ride passengers. The Laguna Hills and Irvine Transportation Centers are in the SOCTIIP study area.

The regular bus fare on local routes is $1.00 per boarding. A $2.50 day pass allows unlimited use of all local routes on the day of purchase. Los Angeles express trips cost $3.00 per boarding.

<u>Shared-Ride Paratransit</u>. OCTA ACCESS shared-ride paratransit service is provided for qualified people who are unable to use the regular fixed route bus service because of functional limitations due to a disability. ACCESS provides four types of services:

- Standard service – curb-to-curb.

- Door-to-door service – passengers are escorted by the driver from door to curb and vice versa.

- Subscription service – a regular service that allows passengers to pre-schedule trips so that passengers do not have to call for the service.

- Backup service – for non-emergency unplanned medical appointments.

ACCESS service fare ranges from $1.70 one-way and upwards. The fare includes one companion for each qualified rider.

NCTD Public Bus Services

NCTD operates regular public bus and paratransit services throughout San Diego County, including the northern part of the County and southernmost Orange County, in the SOCTIIP study area. NCTD regular bus service is known as the Breeze. NCTD Route 395 operates between San Clemente and the Oceanside Transit Center. This route connects to OCTA Routes 1 and 191 as well as to Greyhound bus service at Cristianitos Road and El Camino Real in the City of San Clemente. NCTD Route 395 buses run approximately every two hours each direction from 5:00 AM to 11:30 PM.

Greyhound Intercity Bus Services

Greyhound provides regularly scheduled intercity bus services within and beyond the SOCTIIP study area. Greyhound stations in and near the SOCTIIP study area are:

- Irvine (Limited Service Bus Stop).
- San Juan Capistrano (Limited Service Bus Stop).
- San Clemente (2421 South El Camino Real, San Clemente, 7:00 AM to 9:00 PM daily).
- Oceanside (205 South Tremont Street, Oceanside, 7:00 AM to 9:00 PM daily, Monday through Sunday and holidays).

No ticketing or baggage facilities are available at Limited Service Greyhound Bus Stops.

Greyhound has alliances with bus companies operating in Mexico that provide cross-border service to destinations in the United States served by Greyhound. The Crucero line runs from Los Angeles through San Diego to Mexico.

Metrolink Commuter Rail Service

Metrolink is the regional commuter rail system operated by the Southern California Regional Rail Authority (SCRRA), a joint powers authority of five member agencies representing the five southern California counties of Ventura, Los Angeles, San Bernardino, Riverside and Orange.

Two Metrolink routes serve Orange County: the Orange County Line operating between Oceanside and Los Angeles, and the Inland Empire-Orange County Line operating between San Bernardino and Irvine. The corridor between San Diego County and Los Angeles County is referred to as the LOSSAN corridor. This rail corridor is used by both Metrolink and Amtrak passenger services and by freight services. The LOSSAN corridor in the SOCTIIP study area is along the coast from San Diego County to San Juan Capistrano where it turns inland and generally parallels I-5 north to central Orange County.

There are eight commuter rail stations on the LOSSAN corridor in Orange County. Five stations are in or near the SOCTIIP study area: Irvine, San Juan Capistrano, Laguna Niguel/Mission Viejo (recently opened) and San Clemente, as shown on Figure 4.1-6. The Oceanside station is south of the study area, in the City of Oceanside.

Metrolink trains operate during peak commuting hours on weekdays. The Orange County Line operates 14 trains daily between Irvine and Oceanside, as follows:

- Oceanside to Los Angeles: five trips in the morning, two trips in the afternoon.
- Los Angeles to Oceanside: three trips in the morning and four trips in the afternoon.

Amtrak Intercity Rail Service

Amtrak operates regular intercity passenger service between San Luis Obispo and San Diego via Los Angeles on the Pacific Surfliner. Amtrak stations on the LOSSAN corridor in and near the SOCTIIP study area are in Irvine, San Juan Capistrano, San Clemente Pier and Oceanside. Amtrak does not serve the new Laguna Niguel/Mission Viejo Metrolink station. Approximately 11 Amtrak trains pass through the study area per direction daily, with five trains in the morning, four trains in the afternoon and two trains in the evening.

The Irvine Transportation Center is a stop for Amtrak California's Pacific Surfliner trains. Late hour continuations of Amtrak San Joaquin Motor Coaches also stop at Irvine, providing all day connections to and from the San Joaquin Valley and Sacramento.

Amtrak's Thruway Motorcoach Service provides access to many cities not served by Amtrak trains. Thruway connections provide coordinated train/motor coach service with guaranteed connections at the Amtrak station (in most cases), as well as through fares (on most services) and ticketing. Additional early morning/late night motorcoach service is provided at the San Juan Capistrano and Oceanside stations.

Transportation Centers and Terminals

Transportation centers and transit terminals are focal points for transit bus and rail services. Transportation centers in and near the SOCTIIP study area are provided in the Cities of Irvine, Laguna Hills, Laguna Niguel/Mission Viejo, San Juan Capistrano, San Clemente and Oceanside.

Irvine Transportation Center. The Irvine Transportation Center (ITC) is at 15215 Barranca Parkway in the City of Irvine. The ITC is used by OCTA buses (Routes 211, 382, 388, 488), Metrolink and Amtrak. This Center provides staffed stations, ticket machines, an enclosed waiting area, restrooms, payphones, bike racks and a snack bar. It also provides approximately 630 parking spaces which are free for short term and long term transit patron use.

Laguna Hills Transportation Center. The Laguna Hills Transportation Center is at 24282 Calle de los Caballeros in the City of Laguna Hills. This Center is served by OCTA routes 87, 89, 91, 177, 187, 188, 203, 205, 212 and 216. There are approximately 100 free automobile parking spaces. Passenger amenities include covered waiting areas, benches, public telephones and two restrooms.

Laguna Niguel/Mission Viejo Metrolink Station. This station opened for service on April 19, 2002. It is located on Forbes Road just south of Crown Valley Parkway, in the City of Laguna Niguel, on the border with the City of Mission Viejo. There are 300 free parking spaces and four electric-vehicle charging stations. The station is fully automated, with tickets sold through automated ticket machines.

San Juan Capistrano Bus/Train Station. The San Juan Capistrano bus/train station at 26701 Verdugo Street in the City of San Juan Capistrano is used by OCTA buses (Routes 91 and 191), Amtrak and Metrolink. It provides a staffed station, ticket machines, assistance with baggage, an enclosed waiting area, restrooms, payphones, bike racks and restaurant. It also includes approximately 130 spaces in a parking structure, and approximately 50 surface spaces north of the depot building. A fee is charged for parking at this Station.

San Clemente Station. The San Clemente station, at 1850 Avenida Estacion in the City of San Clemente, is used by OCTA buses (Routes 91 and 191), Amtrak and Metrolink. Amtrak does not have a staffed station here but there is a passenger platform for Amtrak at the San Clemente pier. The station provides public phones, bike lockers and rest rooms. There are approximately 150 parking spaces, which are available free for short term parking but for a fee for long term use.

Oceanside Transportation Center. The Oceanside Transportation Center, at 235 South Tremont Avenue in the City of Oceanside, is a major ground transportation hub in northern San Diego County. Amtrak and the commuter rail agencies use the train depot at this Center. Greyhound and NCTD (NCTD 301, 302, 303, 305, 310, 312, 313, 314, 316, 317, 318, and 320) buses also use this facility. It is large, has many parking spaces for autos, and is staffed by Amtrak, Greyhound and NCTD personnel. This station provides a staffed station, checked baggage service, assistance with baggage, an enclosed waiting area, restrooms, payphones, bike racks and lockers, and a snack bar. Approximately 450 parking spaces are available for free for short and long term parking, with a 72-hour limit.

Planned Transit Facilities and Services

California High Speed Rail

The California High Speed Rail Authority (CHSRA) is a state agency responsible for pursuing the development of a statewide high speed train system to provide intercity rail service at speeds exceeding 321 kilometers (km, 200 miles (mi)) per hour. The CHSRA has identified a preliminary statewide HSR system extending from San Francisco and Sacramento south through Bakersfield, Los Angeles and terminating in San Diego. Fully dedicated rail alignments are anticipated to be used where feasible; in some corridors, shared use of alignments is likely to minimize costs and environmental impacts. Possible routes under consideration between San Diego and Los Angeles include coastal and inland routes. The coastal route, on new dedicated tracks, could follow the existing LOSSAN rail corridor along the coast north from San Diego, through San Clemente and San Juan Capistrano, into inland Orange County and then into Los Angeles. Comments received during the environmental scoping meetings have supported the evaluation of an inland route in lieu of double tracking in the coastal route. Options being studied include a tunnel under I-5 in San Clemente and a tunnel under the historic district in San Juan Capistrano. Alternatively, the coastal route could use the existing coastal rail alignment north to southern Orange County, turning north along the alignment of one of the SOCTIIP corridor alternatives. Constraints in the coastal corridor include limited opportunities for double tracking and sharp curves along the alignment in south Orange County and north San Diego County. Potential constraints to an inland route include grades which could affect the ability of these trains to operate as high speed trains in this area. No specific alignment using the SOCTIIP corridor alternatives has been identified as of September 2003 although the CHSRA and

LOSSAN have initiated discussions with the TCA regarding a study of possible alignments using the alignments of the SOCTIIP corridor alternative alignments.

The route alignment studies and environmental processes are currently underway for the statewide HSR system. No preferred route between Los Angeles and San Diego has been identified to date. Environmental and alignment studies are currently underway. Operations on the HSR system would likely not begin for approximately ten years, if at all. Funding to date has been provided only for the engineering and environmental studies for the HSR program. Funding for the construction and operation of a HSR system is not defined or committed at this time.

Traffic Congestion Relief Plan

Governor Davis's Traffic Congestion Relief Plan (TCRP) allocated $5 million to begin the environmental impact analyses for the TCRP. The $5.3 billion TCRP proposes nearly $2.3 billion for rail (incremental intercity, commuter and trolley) improvements.

Amtrak's Five-Year Rail Improvement Plan

On May 15, 2000, Amtrak published the Draft Final Five-Year Rail Improvement Plan Summary Report detailing $4 billion of investments in California's rail corridors. All the intercity rail investments identified in the Governor's TCRP are among the highest priority incremental improvements included in Amtrak's Five Year Plan.

Amtrak's California Passenger Rail System 20-Year Improvement Plan

On March 5, 2001, Amtrak released a $10.1 billion California Passenger Rail System 20-Year Improvement Plan for existing and emerging rail corridors. The Plan calls for faster, more frequent and more convenient passenger rail service to all major population centers in California. The Plan establishes goals for the state's existing and emerging rail corridors and proposes a vision enabling ridership to grow by 300 percent over the next 20 years with more frequent rail service at speeds up to 200 km (125 mi) per hour. Caltrans, the freight railroads and numerous local officials participated in preparing this Plan.

California State Rail Plan 2001/02 to 2010/11

Caltrans released the California State Rail Plan 2001/02 to 2010/11 in January 2002. This Plan proposes the following expansion of the Pacific Surfliner Route:

- 2003/2004 Los Angeles - San Diego: addition of two more round trips, for a total of 13 round trips; the addition of two round trips from Los Angeles to Santa Barbara and the addition of one round trip from Santa Barbara to San Luis Obispo.

- 2005/2006 Los Angeles - San Diego: Addition of one more round trip, for a total of 14 round trips.

- 2006/2007 Los Angeles - San Diego: Addition of one more round trip, for a total of 15 round trips.

- 2008/2009 Los Angeles - San Diego: Addition of one more round trip, for a total of 16 round trips.

The rail studies and plans developed by Caltrans, Amtrak, the CHSRA and the SCRRA are being coordinated among these agencies. In addition, Caltrans is currently conducting additional rail studies in the LOSSAN corridor including alternatives to provide double tracking on the part of the corridor from northern San Diego into Orange County and a possible inland route.

The schedules for the implementation and operation of these planned rail services and facilities are uncertain, based on their dependence on completing environmental clearance and permitting and acquiring funding for final engineering, construction and operation. It is possible, depending on environmental and funding constraints, that these facilities and services may be delayed well into the future or may never happen. In addition, these rail facilities and services would be expected to serve only part of the travel demand in south Orange County and, as a result, may not provide substantial relief to I-5.

Transit Assumptions in the OCTAM 3.1 Traffic Model

The OCTAM 3.1 traffic model assumes the OCTA September 2000 transit services for the base year conditions. The year 2025 transit conditions assume improvements to select route headways, no new local routes and an approximately 50 percent increase in local bus service. The proposed Centerline light rail system in north and central Orange County is not assumed in the 2025 transit conditions. Appendix D lists the rail and bus transit services assumed in 2000 and 2025 in the OCTAM 3.1 traffic model. Specifically, the OCTAM 3.1 traffic model assumes four different transit modes: local bus, express bus, commuter rail (Amtrak and MetroLink commuter services) and urban rail. Appendix D includes tables which show the number of trip ends, by mode, assumed in the CAAs in south Orange County for 2000 and 2025. As shown in those tables, OCTAM 3 assumes trips ends in these CAAs for local and express bus and commuter rail but does not assume any trip ends in these CAAs for urban rail. This is because there is no existing or planned urban rail service in south Orange County.

4.2 CORRIDOR ALTERNATIVES

4.2.1 OVERVIEW OF THE CORRIDOR ALTERNATIVES

The proposed toll road corridor alternatives are described in detail in this Section, including a description of the features those alternatives have in common. The arterial, I-5 widening and No Action Alternatives are described in the following Sections. Figure 4.1-1 shows the conceptual alignments of the corridor, arterial and I-5 alternatives. Detailed maps of the build alternatives are provided in Appendices A, B and C.

As discussed in this Section, the corridor alternatives are subdivided into unique segments with letter codes. Each segment is unique to each alternative. However, on some segments, the corridor alternatives share a common horizontal alignment but do not share common vertical alignments and/or common disturbance limits. For example, the segment south of the terminus of the existing FTC-N is common to several corridor alternatives. However, the disturbance limits on this segment vary among those alternatives based on differences in the vertical profile for each alternative. This is based on objectives to meet federal and state standards and to balance cut and fill earthwork for each alternative. Therefore, each segment of each corridor alternative is unique in its disturbance limits, even when several alternatives have a common alignment on that segment. However, some corridor alternatives share common horizontal and vertical alignments and those segments would be the same. Specifically, the segment south of Avenida Pico is common to the FEC-M, FEC-W and A7C-FEC-M Alternatives. For that segment, the disturbance limits are common to these three alternatives.

The background conditions for the build alternatives for 2025 assume the following:

- Build out of the MPAH and the RTP as shown on Figure 4.1-4.
- Development consistent with the OCP-2000 demographic forecasts for the SOCTIIP study area as shown on Table 4.1-2.

4.2.2 FEATURES COMMON TO ALL THE INITIAL AND ULTIMATE CORRIDOR ALTERNATIVES

The features common to all the corridor alternatives are described in detail in this Section. In the following Sections, the individual corridor alternatives are described in more detail.

4.2.2.1 Initial and Ultimate Corridor Alternatives

As shown in Table 4.1-1, each corridor alternative is proposed as an *initial* alternative and as an *ultimate* alternative. The initial corridor alternatives propose a toll corridor which would have a cross section providing two general purpose lanes in each direction for the entire length of each alternative. The ultimate corridor alternatives propose a toll corridor on the same alignment, with the same centerline as the initial alternatives, which would have a cross section providing three general purpose lanes in each direction for the full length of each alignment. As shown in the initial corridor cross sections (Figure 4.2-1), the alternatives could accommodate one future high occupancy vehicle (HOV) lane in each direction. The ultimate corridor alternatives, as shown in Figure 4.2-1, provide for one future HOV lane in each direction for the full length of each alignment. As a result, because the ultimate corridor alternatives have a wider cross section, with more travel lanes, the right-of-way requirements for the ultimate corridor alternatives will be wider (larger) than for the initial corridor alternatives. Therefore, because the cross section of the ultimate corridor alternatives is wider than for the initial alternatives, the right-of-way required for the ultimate alternatives will be greater than for the initial alternatives.

The initial corridor alternatives provide the number of traffic lanes that would be needed on the corridors to meet forecasted demand through 2025, the design forecast year for the SOCTIIP alternatives, and the planning horizon year for regional plans and socioeconomic forecasts. The ultimate corridor alternatives provide the number of traffic lanes that would be needed in the future, beyond 2025. Both the initial and ultimate corridor alternatives are included in the alternatives that will be evaluated in the EIS/SEIR for the following reasons:

- The initial alternatives meet traffic demand to 2025, the design forecast year for the SOCTIIP. The EIS/SEIR would provide environmental compliance and would allow the TCA to seek environmental permits and other approvals. In terms of phasing and implementation, the process for the initial corridor alternatives will be similar to the process for the existing transportation corridors. For the existing corridors, the TCA constructed only the number of lanes needed in the interim and not the total or ultimate number of lanes (based on a 2020 planning horizon) which were environmentally cleared in the environmental documents for those corridors. The TCA is phasing in additional improvements on the existing corridors, as demand increases over time, with the long term goal to provide the "complete" or ultimate facilities environmentally cleared for those existing corridors.

- The ultimate corridor alternative is the project currently included in the RTP and other local and regional planning and transportation documents.

- The ultimate corridor alternatives would have greater potential impacts than the initial corridor alternatives. Therefore, it allows decisions makers to understand the impacts of both an initial project, which would be constructed prior to 2025, as well as the ultimate project which would not be expected to be constructed until sometime after 2025.

4.2.2.2 Typical Cross Sections for the Initial and Ultimate Corridor Alternatives

Figure 4.2-1 provides typical cross sections for the initial and ultimate corridor alternatives. As shown, there are two typical cross sections for the initial corridor alternatives. From Oso Parkway to Ortega Highway, the typical section, from the edge of one outside shoulder to the edge of the other outside shoulder, is 39 meters (128 feet) wide. This cross section would accommodate two general purpose lanes in each direction and would accommodate one future HOV lane in each direction in the median, if needed in the future. South of Ortega Highway to I-5, the initial corridor alternative typical section would be 27 meters (89 feet) wide. This would accommodate two general purpose lanes in each direction. To accommodate one future HOV lane in each direction, this typical section would be widened on the outside, as shown on Figure 4.2-1.

Under the ultimate corridor alternatives, the majority of the length of each alternative would provide an eight lane cross section, with three general purpose lanes and one HOV lane in each direction, in a 47.6 meter (156 foot) wide typical section, as shown on Figure 4.2-1. As the ultimate corridor alternatives approach their southern termini, at major arterials or at I-5, the typical section would narrow to three lanes in each direction.

Climbing and auxiliary lanes will also be provided along the corridor alternatives, as needed, to accommodate steeper grades and merging traffic, respectively. These lanes are not shown in the typical cross sections on Figure 4.2-1.

The typical cross sections are assumed for the initial and ultimate corridor alternatives as described above. If variances from these typical sections are proposed, those variances are described in the individual detailed descriptions of each corridor alternative later in this Section.

The right-of-way limits for the initial and ultimate corridor alternatives are shown conceptually on the typical cross sections on Figure 4.2-1. The detailed maps in Appendix A show the anticipated grading limits, construction limits, remedial grading limits and right-of-way limits for the initial and ultimate corridor alternatives. As shown on Figure 4.2-1, the typical cross section for the initial alternatives will vary from 27 to 39 meters (89 to 128 feet) wide; the right-of-way would be wider, to include any cut/fill slopes. South of Ortega Highway to I-5, the right-of-way has been established to accommodate the outside widening for the future HOV lane. For the ultimate alternatives, the typical cross section is 47.6 meters (158 feet) wide; the right-of-way would be wider, to include any cut/fill slopes. Therefore, Figure 4.2-1 conceptually shows that the cross sections and the resulting right-of-way would be wider (larger) for the ultimate alternatives than for the initial alternatives. South of Ortega Highway to I-5, the right-of-way has been established to accommodate the outside widening for the future HOV lane.

The grading limits show the limits of cut and fill work associated with the corridor alternatives. The remedial grading limits show the limits of work related to the remediation of landslides and other geotechnical conditions. Nearly all construction activities (access roads, materials and equipment storage areas) will occur within the area defined by the remedial and grading limits. Only minor activities will occur outside these areas, generally related to reconstruction of Ranch and utility access roads. The construction limits include all areas disturbed for grading, remedial grading, access roads for RMV and utilities, utilities relocations, erosion control features and materials and equipment storage areas. Those areas that will be disturbed by those minor work activities (outside the grading and remedial grading limits) are also shown on the detailed maps in Appendix A. The right-of-way limits on the detailed maps are the areas that would be acquired permanently for the corridor alternatives and that would become state owned right-of-way for the corridor.

The right-of-way limits for the Initial and Ultimate corridor alternatives are different, because the Initial corridor alternatives assume a narrower cross section (fewer travel lanes) as shown in Figure 4.2-1 and generally result in less grading than the Ultimate corridor alternatives as shown later in Table 4.2-4. As a result, the right-of-way limits and total right-of-way for the Initial corridor alternatives are less than for the Ultimate corridor configuration for that alternative.

4.2.2.3 Interchanges for the Initial and Ultimate Corridor Alternatives

The initial and ultimate corridor alternatives include interchanges with I-5 and/or major arterials in the study area to allow traffic to travel to and from the corridors, to and from I-5, and area arterials. Table 4.2-1 lists the initial and ultimate corridor alternatives and their proposed interchanges with I-5 and major arterials.

A number of the corridor alternatives include an interchange with I-5. As a result, those Alternatives include the construction of improvements on segments of I-45 north and south of the interchange, to allow for a smooth transition of traffic to/from I-5 from/to the corridor. A typical cross section for these improvements is shown on Figure 4.2-2. The actual improvements along I-5 at these interchanges will vary, with more improvements/widening closer to the interchange, transitioning to the existing I-5 cross section as you travel away from the interchange.

The need for an interchange with a future intersecting arterial would be evaluated by the agency/party constructing or improving the arterial road. For example, because Crown Valley Parkway is in unincorporated Orange County at its crossing of the corridor alignments, the County of Orange would determine the need for a future interchange between the corridor and Crown Valley Parkway. The TCA would not be responsible for the environmental evaluation, design, construction or financing of this interchange.

4.2.2.4 Bridges for the Initial and Ultimate Corridor Alternatives

Bridges would be provided at major crossings of water and natural resources and local roads and to provide access under the corridors for wildlife. Under the initial and ultimate corridor alternatives, the bridge cross sections would be consistent with the road cross sections on either side of the bridge. For example, if a bridge is provided on a road segment with four general purpose lanes, the bridge structure cross section would also provide four general purpose lanes. Therefore, the cross sections on the bridges under the initial and ultimate corridor alternatives would match the mainline cross sections on the initial and ultimate corridor alternatives.

The locations of all structures along the corridor alternatives are shown in the detailed figures in Appendix A.

Bridges for Water Crossings and Natural Resources

The initial and ultimate corridor alternatives include a number of bridge structures crossing water and natural resources features in the study area. Table 4.2-2 lists the initial and ultimate corridor alternatives and the locations along those alignments where bridges are proposed to span water resources and natural resources such as canyons.

Bridges for Local Road Crossings

The initial and ultimate corridor alternatives include a number of bridge structures crossing local roads, to allow the corridor facility to pass over those roads without disruption to through traffic on the corridor or the local roads. Table 4.2-3 lists the initial and ultimate corridor alternatives and the locations along those alignments where bridges are proposed to span local roads.

Bridges for Wildlife, Agricultural and Utility Crossings

Bridge structures would be provided for wildlife crossings, agricultural road crossings and utility service road crossings. Wildlife crossings are intended to link together areas of suitable wildlife habitat that would otherwise be separated by the corridor.

Crossings would also be provided for agricultural roads and utility service roads. Some preliminary locations for these roads are shown in Appendix A. Additional roads may be identified during final design. These roads will be within the disturbance/construction limits identified for the initial corridor and ultimate corridor alternatives.

4.2.2.5 Fencing and Lighting for the Initial and Ultimate Corridor Alternatives

Fencing would be installed along the right-of-way limits for the entire length of the initial and ultimate corridor alternatives. The height of the fencing will vary, with fencing in urban areas at 1.83 meters (6.0 feet) and in rural areas at 1.5 meters (5.0 feet). The height of fencing in rural areas may be as high as 3.05 meters (10 feet) to provide protection to wildlife in areas designated as wildlife corridors. The specific locations and heights of fencing will be finalized in consultations among the TCA, Caltrans and the USFWS. As required by Caltrans, a minimum three meter (10 foot) wide graded access road would be provided along the fence line for maintenance purposes.

Build alternatives, including corridor, arterial and I-5 alternatives, which cross or are adjacent to Camp Pendleton, will include security fencing and other measures to prevent unauthorized access to the Base from these road facilities. These security measures will be developed in consultation among the TCA, Caltrans and the Marine Corps.

Each initial and ultimate corridor alternative would include pole mounted lighting at the toll plazas, ramps and other locations as required by Caltrans standards.

4.2.2.6 Retaining and Sound Walls for the Initial and Ultimate Corridor Alternatives

<u>Retaining Walls</u>

Retaining walls will be provided in some locations along the alignments of the initial and ultimate corridor alternatives. Retaining walls can be used to minimize or reduce the amount of grading in areas with substantial topography, or to minimize or reduce right-of-way takes in developed areas. The specific locations of retaining walls will be refined in final design if a corridor alternative is selected for implementation.

<u>Sound Walls</u>

Sound walls, to reduce noise impacts on adjacent sensitive land uses under the initial and ultimate corridor alternatives, will be provided consistent with FHWA, Caltrans and local noise standards. The locations of the sound walls are defined in detail in the Noise Technical Report (Mestre Greve Associates 2003). Some of these noise walls will be outside the disturbance limits and rights-of-way for the build alternatives. Those noise walls would be adjacent to existing sensitive land uses to maximize the noise reduction benefits of these walls for the adjacent sensitive uses. Those walls would be constructed on the affected property, with the permission of the property owner, and would become the property of that property owner. The disturbance limits for these walls would be limited to the area directly adjacent to the walls. The construction access to these wall locations would be from the property owner's access (driveway) from the nearest public road and not from the disturbance limits for the build alternatives. The noise walls outside the disturbance limits for the build alternatives are shown on the detailed maps in the Noise Technical Report.

4.2.2.7 Runoff Management Plan Design Features

The build alternatives include Best Management Practices (BMPs) to control the flow of roadway runoff and treat or partially treat roadway runoff before it leaves the project site and enters existing water courses or storm drain facilities. Project design features for the SOCTIIP build alternatives include BMPs such as extended detention basins (EDBs) or grassy swales. The disturbance and right-of-way limits for the build alternatives, shown on the detailed maps in Appendices A, B and C, include areas for EDBs and other BMPs. The BMPs are described in greater detail in the Runoff Management Plan (Psomas, 2003)..

4.2.2.8 Design/Build

The corridor alternatives would be designed and constructed as a "design/build" contract. Under a design/build contract, the TCA would contract with a single contractor to complete the design and construct the entire corridor alternative. The advantages of design/build include opportunities for input/feedback between the designers and the builder throughout the design and construction processes; for concurrent preparation of design on one segment and construction on another segment; substantially reducing the total time elapsed for design and construction, and reducing costs associated with work change orders and design changes once construction has begun. The TCA has successfully used the design/build approach for the existing Eastern and San Joaquin Hills Transportation Corridors in Orange County.

4.2.2.9 Construction Phasing for the Initial and Ultimate Corridor Alternatives

It is anticipated that the corridor alternatives would be constructed in stages as required to meet the projected travel demand. The general sequence of construction could be as follows:

<u>Stage 1- Initial Project</u>

- Oso Parkway to Ortega Highway:
    - Four general purpose lanes, two in each direction, would be constructed, with sufficient width in the median to accommodate future HOV lanes, as shown in the typical cross sections in Figure 4.2-1.
    - Barriers and shoulders would be constructed consistent with Caltrans standards.
    - Interchanges at existing arterials ands state highways and mainline and ramp toll facilities would be constructed.
    - Bridges would be constructed to accommodate the four general purpose travel lanes.

  - Interchanges proposed where the intersecting arterial is not yet constructed would not be constructed. Under all the corridor alternatives, this would be the interchange at Crown Valley Parkway.

- Ortega Highway to I-5:

  - Four general purpose lanes, two in each direction, would be constructed.

  - Barriers and shoulders would be constructed consistent with Caltrans standards.

  - Interchanges at existing arterials and state highways and mainline and ramp toll facilities would be constructed.

  - Bridges would be constructed to accommodate the four general purpose travel lanes.

Stage 2 – Ultimate Project

- The TCA would evaluate the need in the future for the additional general purpose lanes and the HOV lanes based on traffic demand and financial feasibility. When needed, additional pavement and bridge widenings to accommodate the additional lanes would be constructed as shown on Figure 4.2-1outside the existing lanes (from I-5 to Ortega Highway) or within the median (from Ortega Highway to Oso Parkway) Major reconstruction of the interchanges to accommodate the additional general purpose lanes would be required as additional lanes are added.

- The ultimate configuration would provide for six general purpose lanes, three in each direction, and two HOV lanes, one in each direction, for a total of eight lanes.

- Barriers and shoulders would be constructed consistent with Caltrans standards.

- Interchanges at existing arterials and state highways and mainline and ramp toll facilities would be constructed to accommodate the travel lanes.

- Bridges would be reconstructed to accommodate the additional travel lanes.

4.2.2.10 General Construction Process for the Corridor Alternatives

The construction process would generally be as follows for the corridor alternatives:

- The alignment would be fenced and all clearing and grubbing would be conducted at one time.

- The erosion control devices (silt fencing, detention basins, sand bags, etc.) would all be placed.

- Earthwork would be conducted on as many as three segments simultaneously.

- Nighttime construction would occur whenever local roads or I-5 need to be closed. Construction on and near local roads and I-5 would also occur during daylight hours. As a result, construction could extend for approximately 20 hours per day (two 10-hour shifts).

- Noise at night would have to comply with local noise ordinances.

- Particularly noisy activities associated with construction of the corridor alternatives would include pile driving, vehicle backup alarms and pavement/concrete breaking. Pile driving is anticipated to be needed for structures where the corridor alternatives intersect I-5. Pile driving may also occur at other structures along I-5 for the corridor alternatives (where the freeway is affected by the transition from the corridor to/from I-5), depending on the individual bridge structures. In general, unless a road closure is necessary, pile driving would be conducted during the day in compliance with the applicable local noise ordinance. However, there may be a potential need to conduct nighttime pile driving during construction of corridor alternatives that have a direct connection with I-5. Where proposed pile driving for I-5 requires a lane closure, it is anticipated that this work will need to be performed at night to minimize associated traffic congestion. Nighttime pile driving will only be allowed on review of the construction plans for the corridor alternatives by the TCA to confirm that appropriate noise attenuation measures are in place, including appropriate notification of the public.

4.2.2.11 Construction Disturbance for the Initial and Ultimate Corridor Alternatives

The construction of the initial and ultimate corridor alternatives would result in the removal and placement of soil, depending on whether the existing topography needs to be cut or filled in order to construct the road. Specifically, this soil would be associated with excavation for construction, landslide/remedial excavation and filling of low spots. The area anticipated to be disturbed during construction of the initial and ultimate corridor alternatives is shown in detail in Appendix A as areas for grading and remedial grading. Table 4.2-4 summarizes the anticipated soil removal and placement under the initial and ultimate corridor alternatives.

4.2.2.12 Construction Equipment and Manpower Needs for the Initial and Ultimate Corridor Alternatives

The maximum daily construction equipment anticipated to be used for construction of the initial and ultimate corridor alternatives is listed in Table 4.2-5. This equipment would be used for clearing and grubbing, grading, excavation, backfilling, materials and equipment delivery and removal, concrete and asphalt installation, and other construction activities. Staging areas within the disturbance limits would be used during construction for materials storage, equipment and employee parking, temporary storage of soils and other related activities. Access to the construction areas would be via existing public roads and existing ranch/utility access roads. Table 4.2-5 also lists the estimated number of workers who would be on the construction site on a day of maximum construction activity.

4.2.2.13 Construction Periods for the Initial and Ultimate Corridor Alternatives

The estimated construction periods for the initial and ultimate corridor alternatives are shown in Table 4.2-6. These construction periods assume the corridors would be implemented under a design/build contract.

4.2.2.14 Facility Operations for the Initial and Ultimate Corridor Alternatives

Each initial and ultimate corridor alternative would be operated as a toll facility until the construction bonds for the corridor are paid off. The corridor would operate as a closed barrier system, where all vehicles pay at least one toll. The initial and ultimate corridor alternatives would include both mainline and ramp toll collection facilities as described in Table 4.2-7. At the mainline toll plaza and the ramp toll facilities, tolls will be paid with cash or the Automatic Vehicle Identification (AVI) system where users stay in the FastTrak® travel lanes and pass through the toll plaza without stopping.

Tolls are proposed on the corridor alternatives to generate revenues to repay the toll road construction bonds. The TCA, a Joint Powers Authority, was formed pursuant to the Joint Exercise of Powers Act (Gov. Code section 6500.1 et seq.), to construct the proposed facilities and to collect toll fees from users of the facilities for repayment of construction bonds. TCA member agencies include the County of Orange and cities within the SOCTIIP area of benefit. Each TCA member agency is authorized to impose toll fees pursuant to Government Code section 66484.3(f) (establishment and collection of toll fees to pay for the costs of construction of major thoroughfares). Additionally, each TCA member agency has adopted Ordinances pursuant to Government Code section 66484 that allow the member agencies to collect development fees as a condition of approval of final maps or issuance of building permits to defray the cost of building major thoroughfares. After the construction financing bonds are repaid, the TCA will terminate toll collection and the toll roads will become free facilities.

The tolls on the TCA toll roads in Orange County are set based on the need to repay the construction revenue bonds. Tolls can also be used as a congestion management tool. Congestion pricing is one approach for maximizing the capacity of a transportation facility, maintaining an acceptable level of service (LOS) and minimizing the need for additional capital improvements in the short term. For example, as peak hour use of a toll road increases, a peak premium can be added to the existing tolls for those time periods. Peak premiums are one form of congestion pricing that can shift demand from the more heavily used peak periods to the less heavily used off peak periods. To date, the use of congestion pricing on the TCA's toll roads has been limited to the San Joaquin Hills Transportation Corridor (SJHTC) which experiences peak period demand which has adversely affected the LOS on that corridor in the peak period.

As noted earlier, tolls are set to collect sufficient revenues to repay the construction bonds. Based on the traffic analysis conducted for the SOCTIIP, the corridor alternatives will operate at an acceptable LOS in the peak periods through 2025. Therefore, because these corridors will not experience congestion by 2025, congestion pricing is not proposed as any part of the corridor alternatives.

4.2.2.15 Financing for the Corridor Alternatives

None of the existing corridors were provided with federal funding and only nominal state funding was potentially available. As a result, the TCA sought innovative financing alternatives. Tax-free bonds to finance the toll roads were sold to investors, which enabled the TCA to get the required financial backing. Tax-free bonds were issued in March 1993 and September 1997 for the SJHTC and in July 1993 and July 1999 for the ETC. These bonds are non-recourse bonds, which mean the state taxpayer is not at risk for repayment if the TCA is unable to meet its financial requirements. The bonds are being repaid using tolls collected on the corridors.

It is anticipated that the construction of the corridor alternatives would be financed by toll revenue bonds. In October 1984, the County of Orange Board of Supervisors adopted the "Major Thoroughfare and Bridge Fee Program" to assess developer fees for the implementation of the FTC and the Eastern Transportation Corridor (ETC). An area of benefit was established which encompassed much of southeast Orange County. The Cities in this benefit area also adopted the fee program. These developer fees are used to finance planning, conceptual design and environmental clearance of the corridor projects. To supplement the developer fees, Senate Bill (SB) 1413 was passed in September 1987 which gave the TCA the authority to charge tolls to cover the costs of constructing the corridors. It is anticipated that the TCA would issue bonds for the design/construction costs, with the bonds paid back over time with tolls.

The TCA would complete construction of the corridor alternatives capital improvements, including the road and ramps, and then transfer ownership and responsibility for maintenance and operation of these facilities to Caltrans. The TCA will retain operational control of the toll facilities until the construction financing bonds are paid.

4.2.3 FAR EAST CORRIDOR ALTERNATIVES

4.2.3.1 Overview of the Far East Corridor Alternatives

The Far East Corridor (FEC) alignments proposed for evaluation in the EIS/SEIR are listed below and are discussed in detail in the following sections.

<u>Far East Corridor - Initial Alternatives</u>

Far East Corridor – Complete - Initial (FEC- Initial) Alternative
Far East Corridor - Talega Variation - Initial (FEC-TV-Initial) Alternative
Far East Corridor - Cristianitos Variation - Initial (FEC-CV-Initial) Alternative
Far East Corridor - Agricultural Fields Variation - Initial (FEC-AFV-Initial) Alternative
Far East Corridor - Ortega Highway Variation - Initial (FEC-OHV-Initial) Alternative
Far East Corridor - Avenida Pico Variation - Initial (FEC-APV-Initial) Alternative
Far East Corridor-West-Initial (FEC-W-Initial) Alternative
Far East Corridor-Modified-Initial (FEC-M-Initial) Alternative

Far East Corridor - Ultimate Alternatives

Far East Corridor – Complete - Ultimate (FEC-Ultimate) Alternative
Far East Corridor - Talega Variation - Ultimate (FEC-TV-Ultimate) Alternative
Far East Corridor - Cristianitos Variation - Ultimate (FEC-CV-Ultimate) Alternative
Far East Corridor - Agricultural Fields Variation - Ultimate (FEC-AFV-Ultimate) Alternative
Far East Corridor - Ortega Highway Variation - Ultimate (FEC-OHV-Ultimate) Alternative
Far East Corridor - Avenida Pico Variation - Ultimate (FEC-APV-Ultimate) Alternative
Far East Corridor-West-Ultimate (FEC-W-Ultimate) Alternative
Far East Corridor-Modified-Ultimate (FEC-M-Ultimate) Alternative

As described earlier in the Preface, the SOCTIIP Collaborative evaluated all the build alternatives based on the findings of the technical analyses and identified the following FEC alternatives for further consideration in the EIS/SEIR:

FEC-W-Initial and Ultimate Alternatives
FEC-M-Initial and Ultimate Alternatives

The SOCTIIP Collaborative further determined that the following alternatives, which are described in detail in the following Sections, would not be carried forward for detailed evaluation in the EIS/SEIR:

FEC-Initial and Ultimate Alternatives
FEC-TV-Initial and Ultimate Alternatives
FEC-APV-Initial and Ultimate Alternatives
FEC-AFV-Initial and Ultimate Alternatives
FEC-CV-Initial and Ultimate Alternatives
FEC-OHV-Initial and Ultimate Alternatives

4.2.3.2 Description of the Far East Corridor - Complete - Initial and Ultimate Alternatives

The alignment of the FEC-Initial and Ultimate Alternatives, with the individual segments identified, is shown on Figure 4.2-3. This alignment generally follows the alignment of the alternative previously referred to as the CP Alignment. As shown, the FEC Alternatives include Segments A, B, C and D. The corridor under the FEC Alternatives is approximately 26 km (16 mi) long, with an additional approximately 1.9 km (1.2 mi) of improvements on I-5.

Table 4.2-8 summarizes the characteristics of the FEC Alternatives by segment, including the geographic extent of the segment, the length of the segment, the typical initial and ultimate cross sections on the segment, the interchanges on the segment, bridges and other crossings on the segment, and other relevant features of the segment. The individual segments which comprise the FEC-Initial and Ultimate Alternatives are described below.

Segment A. As shown on Figure 4.2-3, Segment A of the FEC Alternatives extends from the existing terminus of the FTC-N at Oso Parkway, on the east side of Cañada Chiquita to the southeast, south of Coto de Caza, crossing Cañada Gobernadora approximately four km (2.5 mi) north of San Juan Creek. This Segment crosses San Juan Creek and terminates at Ortega Highway. This Segment includes realignment and potential widening of approximately 1.4 km (0.9 mi) of Ortega Highway and construction of a new connector road approximately 1.8 km (1.1 mi) long extending north from Ortega Highway to the FEC alignment. Ortega Highway at the corridor crossing is currently a two lane facility. Under the MPAH, Ortega Highway is designated as a six lane Major Arterial. A typical cross section for a Major Arterial is shown on Figure 4.2-4. If Ortega Highway is improved to the Major Arterial designation prior to the implementation of these Alternatives, no further widening of Ortega Highway would be required. If Ortega Highway is not improved to the MPAH designation by the time these Alternatives are implemented, an approximately 1.4 km (0.9 mi) segment of Ortega Highway would be widened, to the MPAH designation, as part of these Alternatives. These Alternatives would also result in the realignment of this same segment of Ortega Highway. A typical cross section for the connector road between the corridor and Ortega Highway is shown on Figure 4.2-5.

Segment B. Segment B of the FEC Alternatives starts at Ortega Highway approximately 5.5 km (3.5 mi) east of Antonio Parkway/Avenida La Pata. From Ortega Highway, Segment B extends south, east of the RMV Land Conservancy and Cristianitos Creek, extending southwest and crossing Blind/Gabino Creek and Cristianitos Creek approximately 1.5 km (one mi) north of the Orange/San Diego County line. Segment B crosses the southeast corner of the Talega Valley Planned Community (PC), on an alignment reflected in the Talega Valley Development Agreement, before terminating just south of Avenida Pico.

Segment C. Segment C of the FEC Alternatives starts south of Avenida Pico and the Orange/San Diego County line immediately west of the San Diego Gas and Electric (SDG&E) substation. The alignment travels south, crossing the inland part of the San Onofre State Beach lease on MCB Camp Pendleton in San Diego County, extending across Cristianitos Road approximately 1.1 km (0.7 mile) north of I-5. This Segment terminates where the corridor crosses San Mateo Creek.

Segment D. Segment D of the FEC Alternatives starts where the corridor crosses San Mateo Creek and extends southeast to I-5, with direct connectors between the corridor and I-5 one km (0.6 mi) south of Basilone Road. I-5 would be widened from 1.0 km (0.6 mi) south of Basilone Road to 2.9 km (1.8 mi) south of Basilone Road.

Typical cross sections for the FEC Initial and Ultimate Alternatives are provided on Table 4.2-8 and are shown on Figure 4.2-1. A typical section for the improvements on I-5 to accommodate the corridor transition at the interchange under these Alternatives is shown on Figure 4.2-4. A typical cross section for the connector road between the corridor and Ortega Highway is shown on Figure 4.2-5.

As shown in Table 4.2-9, the construction of the FEC-Initial Alternative would cost a total of $870 million (m), which includes $74 m for right-of-way and $796 m for final design and construction. The construction of the FEC-Ultimate Alternative would cost a total of $1,162 m, which includes $86 m for right-of-way and $1,076 for final design and construction.

4.2.3.3 Description of the Far East Corridor - Talega Variation - Initial and Ultimate Alternatives

The alignment of the FEC-TV-Initial and Ultimate Alternatives, with the individual segments identified, is shown on Figure 4.2-6. The FEC-TV alignment follows the same alignment as the FEC Alternative from Oso Parkway to south of Ortega Highway as described earlier for Segment A. The FEC-TV Alternative includes Segments A, E and F. The corridor under the FEC-TV Alternatives is approximately 21 km (13 mi) long, with approximately 4.6 km (2.9 mi) of improvements on I-5.

Table 4.2-10 summarizes the characteristics of the FEC-TV Alternatives by segment and the individual segments which comprise the FEC-TV Alternatives are described below. Segment A was described earlier under the FEC - Initial and Ultimate Alternatives.

Segment E. From Ortega Highway, the FEC-TV Alternatives extend southwest across the north part of the RMV Land Conservancy and enter the City of San Clemente approximately 3.2 km (2.0 mi) east of the City of San Juan Capistrano. The FEC-TV alignment then crosses the Talega Valley PC, crossing Avenida Vista Hermosa approximately 0.5 km (0.3 mi) north of Avenida Pico to approximately 0.4 km (0.3 mi) south of Avenida La Pata.

Segment F. From south of Avenida La Pata, Segment F of the FEC-TV Alternatives extends southwest, traversing land owned by the City of San Clemente and several existing residential developments. Segment F continues parallel to and northwest of Avenida Pico, to direct connectors at I-5, 0.9 km (0.6 mi) south of Avenida Pico. This Segment then extends 4.6 km (2.9 mi) south on I-5 to the terminus just north of Cristianitos Road.

Typical corridor cross sections for the FEC-TV Initial and Ultimate Alternatives are shown on Table 4.2-10 and are shown on Figure 4.2-1. A typical section for the improvements on I-5 to accommodate the corridor transition at the interchange under these Alternatives is shown on Figure 4.2-4. A typical section for the Ortega Highway connector road is shown on Figure 4.2-5. As shown in Table 4.2-9, the construction of the FEC-TV-Initial Alternative would cost a total of $1,167 m, which includes $433 m for right-of-way and $734 m for final design and construction. The construction of the FEC-TV-Ultimate Alternative would cost a total of $1,413, which includes $453 m for right-of-way and $960 m for final design and construction.

4.2.3.4 Description of the Far East Corridor - Cristianitos Variation - Initial and Ultimate Alternatives

The alignment of the FEC-CV - Initial and Ultimate Alternatives, with the individual segments identified, is shown on Figure 4.2-7. The FEC-CV alignment follows the alignment of the FEC Alternative on Segments A and B from Oso Parkway to just after it crosses into San Onofre State Park, south of Avenida Pico. From that point, the FEC-CV Alternatives become an undivided four lane collector road (secondary arterial) south to I-5. The FEC-CV Alternatives include Segments A, B and G. The corridor under the FEC-CV Alternatives is approximately 24 km (15 mi) long.

Table 4.2-11 summarizes the characteristics of the FEC-CV Alternatives by segment, and the individual segments which comprise the FEC-CV Alternative are described below. Segments A and B were described earlier under the FEC Alternatives.

Segment G. Segment G of the FEC-CV Alternatives becomes a four lane undivided collector road just south of the Avenida Pico interchange. From that interchange, the FEC-CV alignment proceeds south to join the existing Cristianitos Road alignment south of the Camp Pendleton Guard Gate to the interchange of Cristianitos Road and I-5. Segment G includes widening (to four lanes) and reconstruction of existing Cristianitos Road south of the Camp Pendleton Guard Gate south to I-5 and reconstruction of the existing I-5/Cristianitos Road interchange.

Typical corridor cross sections for the corridor portions of the FEC-CV Initial and Ultimate Alternatives are provided on Table 4.2-11 and on Figure 4.2-1. From south of Avenida Pico to the terminus at I-5, the FEC-CV-Initial and Ultimate Alternatives would provide four mixed flow lanes as a collector road per San Diego County standards. A typical section for a collector road, applicable to the southern part of Segment G, is shown on Figure 4.2-8.

As shown in Table 4.2-9, the construction of the FEC-CV-Initial Alternative would cost a total of \$669 m, which includes \$79 m for right-of-way and \$590 m for final design and construction. The construction of the FEC-CV-Ultimate Alternative would cost a total of \$860 m, which includes \$95 m for right-of-way and \$765 m for final design and construction.

4.2.3.5 Description of the Far East Corridor - Agricultural Fields Variation – Initial and Ultimate Alternatives

The alignment of the FEC-AFV Initial and Ultimate Alternatives, with the individual segments identified, is shown on Figure 4.2-9. The FEC-AFV alignment follows the alignment of the FEC Alternative, on Segments A and B, from Oso Parkway to just after it crosses into the San Onofre State Beach, south of Avenida Pico. The FEC-AFV Alternatives include Segments A, B, H and D. The corridor under the FEC-AFV Alternatives is approximately 26 km (16 mi) long, with an additional approximately 1.9 km (1.2 mi) of improvements on I-5.

Table 4.2-12 summarizes the characteristics of the FEC-AFV - Initial and Ultimate Alternatives by segment and the individual segments which comprise the FEC-AFV Alternatives are described below. Segments A, B and D were described earlier under the FEC Alternatives.

Segment H. Segment H extends southeast from just south of Avenida Pico as it crosses the Orange/San Diego County line. This Segment extends southeast through San Onofre State Beach on MCB Camp Pendleton and crosses Cristianitos Road 0.8 km (0.5 mi) southwest of San Mateo Road. It crosses San Mateo Creek just west of Cristianitos Creek and traverses the agricultural leased land on MCB Camp Pendleton east of San Mateo Creek to the intersection of the corridor with I-5.

Typical corridor cross sections for the FEC-AFV Initial and Ultimate Alternatives are provided on Table 4.2-12 and are shown of Figure 4.2-1. A typical section for the improvements on I-5 to accommodate the corridor transition at the interchange under these Alternatives is shown on Figure 4.2-2.

As shown in Table 4.2-9, the construction of the FEC-AFV-Initial Alternative would cost a total of $845 m, which includes $70 m for right-of-way and $775 m for final design and construction. The construction of the FEC-AFV-Ultimate Alternative would cost a total of $1,135, which includes $86 m for right-of-way and $1,049 for final design and construction.

4.2.3.6 Description of the Far East Corridor - Ortega Highway Variation - Initial and Ultimate Alternatives

The alignment of the FEC-OHV Alternatives follows the alignment of Segment A of the FEC Alternatives, from Oso Parkway to Ortega Highway as shown on Figure 4.2-10. Only Segment A would be constructed under these Alternatives. The corridor under the FEC-OHV Alternatives is approximately 9 km (6 mi) long.

The FEC-OHV Alternatives incorporate Transportation Systems Management (TSM) technology improvements on Ortega Highway from the corridor terminus at Ortega Highway to I-5. The TSM strategies may include traffic signal coordination, real time traffic monitoring and surveillance, and traveler information. No additional lanes or road widening on Ortega Highway, beyond those improvements already assumed in the MPAH (four lanes on Ortega Highway as shown on Figure 4.2-4), are assumed under these Alternatives. As shown in Figures 4.1-4 and 4.2-4, Ortega Highway is shown on the MPAH as a Major Arterial with six travel lanes. No change to this MPAH designation or the number of travel lanes on Ortega Highway are proposed under these Alternatives. However, the TSM strategies may require construction within the existing Ortega Highway right-of-way to install surveillance, monitoring and information display equipment.

Table 4.2-13 summarizes the characteristics of the FEC-OHV - Initial and Ultimate Alternatives. Segment A was described earlier for the FEC Alternatives.

Typical corridor cross sections for the FEC-OHV Initial and Ultimate Alternatives are provided in Table 4.2-13 and are shown on Figure 4.2-1.

As shown in Table 4.2-9, the construction of the FEC-OHV-Initial Alternative would cost a total of $215 m, which includes $11 m for right-of-way and $204 m for final design and construction. The construction of the FEC-OHV-Ultimate Alternative would cost a total of $330 m, which includes $17 m for right-of-way and $313 m for final design and construction.

4.2.3.7 Description of the Far East Corridor - Avenida Pico Variation – Initial and Ultimate Alternatives

The alignment of the FEC-APV - Initial and Ultimate Alternatives follows the alignment of Segments A and B of the FEC Alternatives from Oso Parkway to Avenida Pico as shown on Figure 4.2-11. Segments A and B are the only segments which would be constructed under these

Alternatives. The corridor under the FEC-APV - Initial and Ultimate Alternatives is approximately 17 km (10 mi) long.

The FEC-APV Alternatives incorporate TSM technology improvements on Avenida Pico from the corridor terminus at Avenida Pico to I-5. No additional lanes or road widening on Avenida Pico, beyond those improvements already assumed in the MPAH (six lanes on Avenida Pico), are assumed under these Alternatives. As shown in Figures 4.1-4 and 4.2-4, Avenida Pico is shown on the MPAH as a Major Arterial with six travel lanes. No change to this MPAH designation or the number of travel lanes on Avenida Pico are proposed under these Alternatives. However, the TSM strategies may require construction within the existing Avenida Pico right-of-way to install surveillance, monitoring and information display equipment.

Table 4.2-14 summarizes the characteristics of the FEC-APV Alternative by segment. Segments A and B were described earlier under the FEC Alternatives.

Typical corridor cross sections for the FEC-APV Initial and Ultimate Alternatives are provided on Table 4.2-14 and are shown on Figure 4.2-1.

As shown in Table 4.2-9, the construction of the FEC-APV-Initial Alternative would cost a total of $515 m, which includes $52 m for right-of-way and $463 m for final design and construction. The construction of the FEC-APV-Ultimate Alternative would cost a total of $667 m, which includes $61 m for right-of-way and $606 m for final design and construction.

4.2.3.8 Description of the Far East Corridor-West-Initial and Ultimate Alternatives

The alignment of the FEC-W-Initial and Ultimate Alternatives, with the individual segments identified, is shown on Figure 4.2-12. The FEC-W alignment follows the same alignment as the FEC Alternatives on Segments C and D. The FEC-W Alternative includes Segments U, V, C and D. The corridor under the FEC-W Alternatives is approximately 25 km (15 mi) long, with approximately 1.3 km (0.8 mi) of improvements on the I-5.

Table 4.2-15 summarizes the characteristics of the FEC-W Alternatives by segment and the individual segments which comprise the FEC-W Alternative are described below.

<u>Segment U</u>. As shown on Figure 4.2-12, Segment U of the FEC-W Alternatives extends from the existing terminus of the FTC-N at Oso Parkway, on the east side of Cañada Chiquita to the southeast, south of Coto de Caza, crossing Cañada Gobernadora approximately four km (2.5 mi) north of San Juan Creek. This segment crosses San Juan Creek and terminates at Ortega Highway.

<u>Segment V</u>. Segment V of the FEC-W Alternatives starts at Ortega Highway approximately 4.0 km (2.5 mi) east of Antonio Parkway/Avenida La Pata. From Ortega Highway, Segment V extends south traversing the west side of the RMV Land Conservancy, extending southeast and crosses the southeast corner of the Rolling Hills (Talega) PC before terminating just south of Avenida Pico.

Typical corridor cross sections for the FEC-W-Initial and Ultimate Alternatives are shown of Table 4.2-15 and on Figure 4.2-1. A typical section for the improvements on I-5 to accommodate the corridor transition at the interchange under these Alternatives is shown on Figure 4.2-2.

As shown in Table 4.2-9, the construction of the FEC-W-Initial Alternative would cost a total of \$699 m, which includes \$62 m for right-of-way and \$637 m for final design and construction. The construction of the FEC-W-Ultimate Alternative would cost a total of \$867 m, which includes \$69 m for right-of-way and \$798 m for final design and construction.

4.2.3.9 Description of the Far East Corridor-Modified-Initial and Ultimate Alternatives

The alignment of the FEC-M-Initial and Ultimate Alternatives, with the individual segments identified, is shown on Figure 4.2-13. The FEC-M alignment follows the same alignment as the FEC Alternatives on Segments C and D. The FEC-M Alternative includes Segments W, X, C and D. The corridor under the FEC-M Alternatives is approximately 26 km (16 mi) long, with approximately 1.3 km (0.8 mi) of improvements on the I-5.

Table 4.2-16 summarizes the characteristics of the FEC-M Alternatives by segment and the individual segments which comprise the FEC-M Alternative are described below.

<u>Segment W</u>. As shown on Figure 4.2-13, Segment W of the FEC-M Alternatives extends from the existing terminus of the FTC-N at Oso Parkway, on the east side of Cañada Chiquita to the southeast, south of Coto de Caza, crossing Cañada Gobernadora approximately four km (2.5 mi) north of San Juan Creek. This Segment crosses San Juan Creek and terminates at Ortega Highway.

<u>Segment X</u>. Segment X of the FEC-M Alternatives starts at Ortega Highway approximately 5.4 km (3.4 mi) east of Antonio Parkway/Avenida La Pata. From Ortega Highway, Segment X extends south, east of the RMV Land Conservancy and Cristianitos Creek, extending southwest and crossing Cristianitos Creek approximately 2.8 km (1.7 mi) north of the Orange/San Diego County line. Segment X crosses the southeast portion of the RMV Land Conservancy and the southeast corner of the Rolling Hills (Talega) PC before terminating just south of Avenida Pico.

Typical corridor cross sections for the FEC-M-Initial and Ultimate Alternatives are shown of Table 4.2-16 and on Figure 4.2-1. A typical section for the improvements on I-5 to accommodate the corridor transition at the interchange under these Alternatives is shown on Figure 4.2-2.

As shown in Table 4.2-9, the construction of the FEC-M-Initial Alternative would cost a total of \$764 m, which includes \$68 m for right-of-way and \$696 m for final design and construction. The construction of the FEC-M-Ultimate Alternative would cost a total of \$914 m, which includes \$72 m for right-of-way and \$842 m for final design and construction.

4.2.4 CENTRAL CORRIDOR ALTERNATIVES

4.2.4.1 Overview of the Central Corridor Alternatives

The Central Corridor (CC) alignments proposed for evaluation in the EIS/SEIR are listed below and are discussed in detail later in this Section.

Central Corridor - Initial Alternatives

Central Corridor – Complete - Initial (CC-Initial) Alternative
Central Corridor - Avenida La Pata Variation - Initial (ALPV-Initial) Alternative
Central Corridor - Ortega Highway Variation - Initial (OHV-Initial) Alternative

Central Corridor - Ultimate Alternatives

Central Corridor – Complete - Ultimate (CC-Ultimate) Alternative
Central Corridor - Avenida La Pata Variation - Ultimate (ALPV-Ultimate) Alternative
Central Corridor - Ortega Highway Variation - Ultimate (OHV-Ultimate) Alternative

As described earlier in the Preface, the SOCTIIP Collaborative evaluated all the build alternatives based on the findings of the technical reports and identified the following CC alternatives for further consideration in the EIS/SEIR:

CC-Initial and Ultimate Alternatives
CC-ALPV-Initial and Ultimate Alternatives

The SOCTIIP Collaborative further determined that the following alternatives, which are described in detail in the following Sections, would not be carried forward for detailed evaluation in the EIS/SEIR:

CC-OHV-Initial and Ultimate Alternatives

4.2.4.2 Description of the Central Corridor – Complete - Initial and Ultimate Alternatives

The alignment of the CC - Initial and Ultimate Alternatives with the individual segments identified is shown on Figure 4.2-14. The alignment of the CC Alternatives generally follows the alignment of the alternative previously referred to as BX. The CC Alternatives include Segments I, J and K. The corridor under the CC Alternatives is approximately 19 km (12 mi) long, with an additional approximately 4.6 km (2.9 mi) of improvements on I-5. These Alternatives would also require widening (to the MPAH designation), but no realignment, of approximately 1 km (0.6 mi) of Ortega Highway. Ortega Highway at the corridor crossing is currently a two lane facility. Under the MPAH, Ortega Highway is designated as a six lane Major Arterial. A typical cross section for a Major Arterial is shown on Figure 4.2-4. If Ortega Highway is improved to the Major Arterial designation prior to the implementation of these Alternatives, no further widening of Ortega Highway would be required. If Ortega Highway is not improved to the MPAH designation by the time these Alternatives are implemented, an approximately 1.0 km (0.6 mi) segment of Ortega Highway would be widened, to the MPAH designation, as part of these Alternatives. These Alternatives would not result in the realignment of this same segment of Ortega Highway.

Table 4.2-17 summarizes the characteristics of the CC - Initial and Ultimate Alternatives by segment. The individual segments which comprise the CC Alternatives are described below.

Segment I. Segment I extends from the existing terminus of the FTC-N at Oso Parkway, crosses Cañada Chiquita approximately 2.1 km (1.3 mi) south of Oso Parkway, extending along the west side of Cañada Chiquita, crossing San Juan Creek and Ortega Highway approximately 0.4 km (0.25 mi) east of Antonio Parkway/Avenida La Pata.

Segment J. Segment J extends south from Ortega Highway, paralleling Avenida La Pata, crossing through Prima Deshecha Landfill, south to Avenida Vista Hermosa, traversing property owned by the City of San Clemente and terminating 0.4 km (0.3 mi) south of Avenida La Pata.

Segment K. Segment K of the CC Alternatives extends southwest from the crossing of Avenida La Pata, traversing several existing residential developments. Segment K continues parallel to and northwest of Avenida Pico, to direct connectors at I-5. This Segment then extends 4.6 km (2.9 mi) south on I-5 to Cristianitos Road.

Typical cross sections for the CC-Initial and Ultimate Alternatives are provided in Table 4.2-17 and are shown on Figure 4.2-1. A typical section for the improvements on I-5 to accommodate the corridor transition at the interchange under these Alternatives is shown on Figure 4.2-4.

As shown in Table 4.2-9, the construction of the CC-Initial Alternative would cost a total of \$1,122 m, which includes \$419 m for right-of-way and \$703 m for final design and construction. The construction of the CC-Ultimate Alternative would cost a total of \$1,379 m, which includes \$435 m for right-of-way and \$944 m for final design and construction.

4.2.4.3 Description of the Central Corridor-Avenida La Pata Variation-Initial and Ultimate Alternatives

The alignment of the CC-ALPV - Initial and Ultimate Alternatives with the individual segments identified is shown on Figure 4.2-15. The CC-ALPV Alternatives include Segments I and J only. The corridor under the CC-ALPV Initial and Ultimate Alternatives is approximately 14 km (9 mi) long.

As shown on Figure 4.2-15, the CC-ALPV Alternatives incorporate TSM technology improvements on Avenida Vista Hermosa from the corridor terminus at Avenida Vista Hermosa to Avenida La Pata, on Avenida La Pata from Avenida Vista Hermosa to Avenida Pico, and on Avenida Pico from Avenida La Pata to I-5. No additional lanes or road widening on Avenida Vista Hermosa, Avenida La Pata and Avenida Pico, beyond those improvements already assumed in the MPAH, are assumed under these Alternatives. As shown in Figure 4.1-4, Avenida Vista Hermosa is shown on the MPAH as a Primary Arterial, with four travel lanes and Avenida La Pata and Avenida Pico are shown on the MPAH as Major Arterials with six travel lanes. Figure 4.2-4 shows a typical cross section for a Major Arterial and Figure 4.2-16 shows a typical cross section for a Primary Arterial. No changes to these MPAH designations or number of travel lanes on these arterial segments are proposed under these Alternatives. However, the TSM strategies may require construction within the existing arterial rights-of-way to install surveillance, monitoring and information display equipment.

Table 4.2-18 summarizes the characteristics of the CC-ALPV-Initial and Ultimate Alternatives by segment. Segments I and J were described earlier under the CC Alternatives.

Typical corridor cross sections for the CC-ALPV-Initial and Ultimate Alternatives are provided in Table 4.2-18 and on Figure 4.2-1.

As shown in Table 4.2-9, the construction of the CC-ALPV-Initial Alternative would cost a total of $512 m, which includes $55 m for right-of-way and $457 m for final design and construction. The construction of the CC-ALPV-Ultimate Alternative would cost a total of $628 m, which includes $68 m for right-of-way and $560 m for final design and construction.

4.2.4.4 Description of the Central Corridor - Ortega Highway Variation - Initial and Ultimate Alternatives

The alignment of the CC-OHV-Initial and Ultimate Alternatives with the individual segments identified is shown on Figure 4.2-17. The CC-OHV Alternatives includes only Segment I. The corridor under the CC-OHV Alternatives is approximately 8 km (5 mi) long.

As shown on Figure 4.2-17, the CC-OHV Alternatives incorporate TSM technology improvements on Ortega Highway from the corridor terminus at Ortega Highway to I-5. No additional lanes or road widening on Ortega Highway, beyond those improvements already assumed in the MPAH (four lanes on Ortega Highway), are assumed under these Alternatives. As shown in Figures 4.1-4 and 4.2-4, Ortega Highway is shown on the MPAH as a Major Arterial with six travel lanes. No change to this MPAH designation or the number of travel lanes on Ortega Highway are proposed under these Alternatives. However, the TSM strategies may require construction within the existing Ortega Highway right-of-way to install surveillance, monitoring and information display equipment.

Table 4.2-19 summarizes the characteristics of the CC-OHV Alternatives for Segment I. Segment I was described earlier under the CC Alternatives.

Typical corridor cross sections for the CC-OHV-Initial and Ultimate Alternatives are provided in Table 4.2-19 and on Figure 4.2-1.

As shown in Table 4.2-9, the construction of the CC-OHV-Initial Alternative would cost a total of $233 m, which includes $29 m for right-of-way and $204 m for final design and construction. The construction of the CC-OHV-Ultimate Alternative would cost a total of $290 m, which includes $32 m for right-of-way and $258 m for final design and construction.

4.2.5 ALIGNMENT 7 ALTERNATIVES

4.2.5.1 Overview of the Alignment 7 Alternatives

The Alignment 7 Corridor (A7C) alignments proposed for evaluation in the EIS/SEIR are listed below and are discussed in detail in this Section.

Alignment 7 Corridor – Initial Alternatives

Alignment 7 Corridor-Complete-Initial (A7C-Initial) Alternative
Alignment 7 Corridor-7 Swing Variation-Initial (A7C-7SV-Initial) Alternative
Alignment 7 Corridor-Far East Crossover Variation-Initial (A7C-FECV-Initial) Alternative
Alignment 7 Corridor-Far East Crossover (Cristianitos) Variation-Initial (A7C-FECV-C-Initial) Alternative
Alignment 7 Corridor-Far East Crossover (Agricultural Fields) Variation-Initial (A7C-FECV-AF-Initial) Alternative
Alignment 7 Corridor-Ortega Highway Variation-Initial (A7C-OHV-Initial) Alternative
Alignment 7 Corridor-Avenida La Pata Variation-Initial (A7C-ALPV-Initial) Alternative
Alignment 7 Corridor-Far East Crossover-Modified-Initial (A7C-FEC-M-Initial) Alternative

Alignment 7 Corridor - Ultimate Alternatives

Alignment 7 Corridor-Complete-Ultimate (A7C-Ultimate) Alternative
Alignment 7 Corridor-7 Swing Variation-Ultimate (A7C-7SV-Ultimate) Alternative
Alignment 7 Corridor-Far East Crossover Variation-Ultimate (A7C-FECV-Ultimate) Alternative
Alignment 7 Corridor-Far East Crossover (Cristianitos) Variation-Ultimate (A7C-FECV-C-Ultimate) Alternative
Alignment 7 Corridor-Far East Crossover (Agricultural Fields) Variation-Ultimate (A7C-FECV-AF-Ultimate) Alternative
Alignment 7 Corridor-Ortega Highway Variation-Ultimate (A7C-OHV-Ultimate) Alternative
Alignment 7 Corridor-Avenida La Pata Variation-Ultimate (A7C-ALPV-Ultimate) Alternative
Alignment 7 Corridor-Far East Crossover-Modified-Initial (A7C-FEC-M-Ultimate) Alternative

As described earlier in the Preface, the SOCTIIP Collaborative evaluated all the build alternatives based on the findings of the technical reports and identified the following A7C alternatives for further consideration in the EIS/SEIR:

A7C-FEC-M-Initial and Ultimate Alternatives
A7C-ALPV-Initial and Ultimate Alternatives

The SOCTIIP Collaborative further determined that the following alternatives, which are described in detail in the following Sections, would not be carried forward for detailed evaluation in the EIS/SEIR:

A7C-Initial and Ultimate Alternatives
A7C-FECV-Initial and Ultimate Alternatives

A7C-7SV-Initial and Ultimate Alternatives
A7C-FECV-C-Initial and Ultimate Alternatives
A7C-FECV-AF-Initial and Ultimate Alternatives
A7C-OHV-Initial and Ultimate Alternatives

4.2.5.2 Description of the Alignment 7 Corridor - Complete - Initial and Ultimate Alternatives

The alignment of the A7C-Initial and Ultimate Alternatives, with the individual segments identified, is shown on Figure 4.2-18. The A7C Alternatives include Segments L, M and N. The corridor under the A7C Alternatives is approximately 19 km (12 mi) long, with an additional approximately 4.6 km (2.9 mi) of improvements on I-5.

Table 4.2-20 summarizes the characteristics of the A7C-Initial and Ultimate Alternatives by segment. The individual segments which comprise the A7C Alternatives are described below.

<u>Segment L</u>. Segment L extends from the existing terminus of the FTC-N at Oso Parkway, on the east side of Cañada Chiquita and east of the Cañada Chiquita Water Reclamation Plant. It then extends south, across San Juan Creek to Ortega Highway, approximately 1.7 km (1.1 mi) east of the intersection of Antonio Parkway/Avenida La Pata. This Segment includes construction of a new connector road approximately 2.2 km (1.4 mi) long, extending east from Antonio Parkway to the A7C alignment. Figure 4.2-5 shows a typical cross section for this connector road.

<u>Segment M</u>. Segment M extends south from Ortega Highway and across Prima Deshecha Landfill, entering the City of San Clemente and crossing the Talega Valley PC. Segment M then extends southeast and terminates at Avenida Vista Hermosa.

<u>Segment N</u>. From the crossing of Avenida Vistas Hermosa, Segment N extends southwest, traversing land owned by the City of San Clemente and several existing residential developments. Segment N continues parallel to and northwest of Avenida Pico, to direct connectors at I-5. Segment N includes widening of I-5 from south of Avenida Pico to just north of Cristianitos Road.

Typical corridor cross sections for the A7C-Initial and Ultimate Alternatives are provided on Table 4.2-20 and on Figure 4.2-1. A typical section for the improvements on I-5 to accommodate the corridor transition at the interchange under these Alternatives is shown on Figure 4.2-4.

As shown in Table 4.2-9, the construction of the A7C-Initial Alternative would cost a total of $1,594 m, which includes $467 m for right-of-way and $1,127 m for final design and construction. The construction of the A7C-Ultimate Alternative would cost a total of $1,871 m, which includes $474 m for right-of-way and $1,397 m for final design and construction.

4.2.5.3 Description of the Alignment 7 Corridor - 7 Swing Variation - Initial and Ultimate Alternatives

The alignment of the A7C-7SV-Initial and Ultimate Alternatives, with the individual segments identified, is shown on Figure 4.2-19. The A7C-7SV Alternatives include Segments L, O and P. The corridor under the A7C-7SV Alternatives is approximately 18 km (11 mi) long, with an additional approximately 4.6 km (2.9 mi) of improvements on I-5.

Table 4.2-21 summarizes the characteristics of the A7C-7SV-Initial and Ultimate Alternatives by segment. Segment L was described earlier for the A7C Alternatives. Segments O and P are described below.

Segment O. Segment O extends from Ortega Highway south across the Prima Deshecha Landfill to Avenida Vista Hermosa, traversing land owned by the City of San Clemente and terminating 0.43 km (0.17 mi) south of Avenida La Pata.

Segment P. Segment P extends southwest from the crossing of Avenida La Pata, traversing several existing residential developments. Segment P continues parallel to and northwest of Avenida Pico, to direct connectors at I-5. Segment P includes widening 4.6 km (2.9 mi) of I-5 from south of Avenida Pico to just north of Cristianitos Road.

Typical corridor cross sections for the A7C-7SV-Initial and Ultimate Alternatives are provided in Table 4.2-21 and on Figure 4.2-1. A typical section for the improvements on I-5 to accommodate the corridor transition at the interchange under these Alternatives is shown on Figure 4.2-4.

As shown in Table 4.2-9, the construction of the A7C-7SV-Initial Alternative would cost a total of $1,791 m, which includes $414 m for right-of-way and $1,377 m for final design and construction. The construction of the A7C-7SV-Ultimate Alternative would cost a total of $2,139 m, which includes $442 m for right-of-way and $1,697 m for final design and construction.

4.2.5.4 Description of the Alignment 7 Corridor - Far East Crossover Variation - Initial and Ultimate Alternatives

The alignment of the A7C-FECV Initial and Ultimate Alternatives, with the individual segments identified, is shown on Figure 4.2-21. The A7C-FECV Alternatives include Segments L, Q, R and D. The corridor under the A7C-FECV Alternatives is approximately 25 km (15 mi) long, with an additional approximately 1.9 km (1.2 mi) of improvements on I-5.

Table 4.2-20 summarizes the characteristics of the A7C-FECV-Initial and Ultimate Alternatives by segment and the individual segments which comprise the A7C-FECV Alternatives are described below. Segment L was described previously for the A7C Alternatives and Segment D was described earlier for the FEC Alternatives.

Segment Q. Segment Q extends from south of Ortega Highway, across Prima Deshecha Landfill, through the southeast corner of the Rolling Hills (Talega) PC, through the southeast corner of the RMV Land Conservancy and south to Avenida Pico.

Segment R. Segment R starts at Avenida Pico and the Orange/San Diego County line immediately west of the SDG&E substation. The alignment travels south, crossing the inland part of San Onofre State Beach on MCB Camp Pendleton in San Diego County, extending across Cristianitos Road approximately 1.1 km (0.7 mi) north of I-5. This Segment terminates where the corridor crosses San Mateo Creek.

Typical corridor cross sections for the A7C-FECV-Initial and Ultimate Alternatives are provided in Table 4.2-22 and on Figure 4.2-1. A typical section for the improvements on I-5 to accommodate the corridor transition at the interchange under these Alternatives is shown on Figure 4.2-4.

Consistent with the March 4, 1992 "Statement of Intent Regarding Foothill Transportation Corridor, Oso Parkway to Interstate 5, Modified C Alignment," the A7C-FECV alignment, if identified as the "environmentally preferred alternative" through the NEPA EIS, could be supported by Camp Pendleton if certain conditions, defined in the Statement are met, because it is on the same alignment as the FEC Alternatives (the alignment originally addressed by the 1992 Statement).

As shown in Table 4.2-9, the construction of the A7C-FECV-Initial Alternative would cost a total of $1,552 m, which includes $101 m for right-of-way and $1,451 m for final design and construction. The construction of the A7C-FECV-Ultimate Alternative would cost a total of $1,804 m, which includes $144 m for right-of-way and $1,660 m for final design and construction.

4.2.5.5 Description of the Alignment 7 Corridor - Far East Crossover (Cristianitos) Variation - Initial and Ultimate Alternatives

The alignment of the A7C-FECV-C-Initial and Ultimate Alternatives, with the individual segments identified, is shown on Figure 4.2-21. The A7C-FECV-C Alternatives include Segments L, Q and S. The corridor under the A7C-FEC-C Alternatives is approximately 23 km (14 mi) long.

Table 4.2-23 summarizes the characteristics of the A7C-FECV-C Alternatives by segment and the individual segments which comprise the A7C-FECV-C Alternative are described below. Segments L and Q were described earlier for the A7C and A7C-FECV Alternatives, respectively.

Segment S. Segment S becomes a four lane undivided collector road south of the Avenida Pico interchange. From that interchange, the alignment would proceed south to join the existing Cristianitos Road alignment south of the Camp Pendleton Guard Gate to the interchange of Cristianitos Road and I-5. Segment S includes widening and reconstruction of existing Cristianitos Road from south of the Camp Pendleton Guard Gate south to I-5 and reconstruction of the existing I-5/Cristianitos Road interchange.

Typical cross sections for the A7C-FECV-C-Initial and Ultimate Alternatives are provided in Table 4.2-23 and are shown on Figure 4.2-1 (corridor) and 4.2-8 (Cristianitos, Secondary Arterial).

As shown in Table 4.2-9, the construction of the A7C-FECV-C-Initial Alternative would cost a total of $1,329 m, which includes $105 m for right-of-way and $1,224 m for final design and construction. The construction of the A7C-FECV-C-Ultimate Alternative would cost a total of $1,712 m, which includes $148 m for right-of-way and $1,564 m for final design and construction.

4.2.5.6 Description of the Alignment 7 Corridor - Far East Crossover (Agricultural Fields) Variation - Initial and Ultimate Alternatives

The alignment of the A7C-FECV-AF-Initial and Ultimate Alternatives, with the individual segments identified, is shown on Figure 4.2-22. The A7C-FECV-AF Alternatives include Segments L, Q, T and D. The corridor under the A7C-FECV-AF Alternatives is approximately 25 km (15 mi) long.

Table 4.2-24 summarizes the characteristics of the A7C-FECV-AF Alternatives by segment. Segments L, Q and D were described earlier for the A7C, A7C-FECV and FEC Alternatives, respectively. Segment T is described below.

Segment T. Segment T extends southeast from Avenida Pico as it crosses the Orange/San Diego County line. This Segment then extends southeast through San Onofre State Beach on MCB Camp Pendleton, crossing Cristianitos Road 0.8 km (0.5 mi) southwest of San Mateo Road. It then crosses San Mateo Creek just west of Cristianitos Creek and traverses the agricultural leased land on MCB Camp Pendleton east of San Mateo Creek.

Typical corridor cross sections for the A7C-FECV-AF-Initial and Ultimate Alternatives are provided in Table 4.2-24 and Figure 4.2-1. A typical section for the improvements on I-5 to accommodate the corridor transition at the interchange under these Alternatives is shown on Figure 4.2-4.

As shown in Table 4.2-9, the construction of the A7C-FECV-AF-Initial Alternative would cost a total of $1,509, which includes $97 m for right-of-way and $1,412 m for final design and construction. The construction of the A7C-FECV-AF-Ultimate Alternative would cost a total of $1,985 m, which includes $141 m for right-of-way and $1,844 m for final design and construction.

4.2.5.7 Description of the Alignment 7 Corridor - Ortega Highway Variation - Initial and Ultimate Alternatives

The alignment of the A7C-OHV-Initial and Ultimate Alternatives, with the individual segments identified, is shown on Figure 4.2-23. The A7C-OHV Alternatives include Segment L. The corridor under the A7C-OHV Alternatives is approximately 7 km (4 mi) long.

As shown on Figure 4.2-23, the A7C-OHV Alternatives incorporates TSM technology improvements on Ortega Highway from the corridor terminus at Ortega Highway to I-5. No additional lanes or road widening on Ortega Highway, beyond those improvements already assumed in the MPAH (four lanes on Ortega Highway), are assumed under these Alternatives. As shown in Figures 4.1-4 and 4.2-4, Ortega Highway is shown on the MPAH as a Major Arterial with six travel lanes. No change to this MPAH designation or the number of travel lanes on Ortega Highway are proposed under these Alternatives. However, the TSM strategies may require construction within the existing arterial right-of-way to install surveillance, monitoring and information display equipment.

Table 4.2-25 summarizes the characteristics of the A7C-OHV Alternatives for Segment L which comprises the A7C-OHV Alternative. Segment L was described earlier for the A7C Alternatives.

Typical corridor cross sections for the A7C-OHV-Initial and Ultimate Alternatives are provided in Table 4.2-25 and on Figure 4.2-1.

As shown in Table 4.2-9, the construction of the A7C-OHV-Initial Alternative would cost a total of $341 m, which includes $9 m for right-of-way and $332 m for final design and construction. The construction of the A7C-OHV-Ultimate Alternative would cost a total of $410 m, which includes $12 m for right-of-way and $398 m for final design and construction.

4.2.5.8 Description of the Alignment 7 Corridor - Avenida La Pata Variation - Initial and Ultimate Alternatives

The alignment of the A7C-ALPV-Initial and Ultimate Alternatives, with the individual segments identified, is shown on Figure 4.2-24. The A7C-ALPV Alternatives include Segments L and M. The corridor under the A7C-ALPV Alternatives is approximately 14 km (8 mi) long.

As shown on Figure 4.2-25, the A7-ALPV Alternatives incorporate TSM technology improvements on Avenida Vista Hermosa from the corridor terminus at Avenida Vista Hermosa to Avenida La Pata, on Avenida La Pata from Avenida Vista Hermosa to Avenida Pico and on Avenida Pico from Avenida La Pata to I-5. No additional lanes or road widening on Avenida Vista Hermosa, Avenida La Pata or Avenida Pico, beyond those improvements already assumed in the MPAH, are assumed under these Alternatives. As shown in Figure 4.1-4, Avenida Vista Hermosa is shown on the MPAH as a Primary Arterial, with four travel lanes and Avenida La Pata and Avenida Pico are shown on the MPAH as Major Arterials with six travel lanes. Typical cross sections for Major and Primary Arterials are shown on Figures 4.2-2 and 4.2-16. No changes to these MPAH designations or number of travel lanes on these arterial segments are proposed under these Alternatives. However, the TSM strategies may require construction within the existing arterial right-of-way to install surveillance, monitoring and information display equipment.

Table 4.2-26 summarizes the characteristics of the A7C-ALPV Alternative by segment. Segments L and M were described earlier for the A7C Alternative.

Typical corridor cross sections for the A7C-ALPV-Initial and Ultimate Alternatives are provided in Table 4.2-26 and on Figure 4.2-1.

As shown in Table 4.2-9, the construction of the A7C-ALPV-Initial Alternative would cost a total of $962 m, which includes $86 m for right-of-way and $876 m for final design and construction. The construction of the A7C-ALPV-Ultimate Alternative would cost a total of $1,020, which includes $96 m for right-of-way and $924 for final design and construction.

4.2.5.9 Description of the Alignment 7 Corridor-Far East Crossover-Modified-Initial and Ultimate Alternatives

The alignment of the A7C-FEC-M-Initial and Ultimate Alternatives, with the individual segments identified, is shown on Figure 4.2-25. The A7C-FEC-M alignment follows an alignment similar to the A7C-FECV Alternatives on Segments L and Q and the same alignment on Segments C and D. The A7C-FEC-M Alternative includes Segments Y, Z, C and D. The corridor under the A7C-FEC-M Alternatives is approximately 26 km (16 mi) long, with approximately 1.3 km (0.8 mi) of improvements on the I-5.

Table 4.2-27 summarizes the characteristics of the A7C-FEC-M Alternatives by segment and the individual segments which comprise the A7C-FEC-M Alternative are described below.

<u>Segment Y</u>. Segment Y extends from the existing terminus of the FTC-N at Oso Parkway, on the east side of Cañada Chiquita and east of the Cañada Chiquita Water Reclamation Plant. It then extends south, across San Juan Creek to Ortega Highway, approximately 2.1 km (1.3 mi) east of the intersection of Antonio Parkway/Avenida La Pata.

<u>Segment Z</u>. Segment Z extends southeast from Ortega Highway, then south traversing the west side of the RMV Land Conservancy and then southeast and crosses the southeast corner of the Rolling Hills (Talega) PC before terminating just south of Avenida Pico.

Typical corridor cross sections for the A7C-FEC-M-Initial and Ultimate Alternatives are shown of Table 4.2-27 and on Figure 4.2-1. A typical section for the improvements on I-5 to accommodate the corridor transition at the interchange under these Alternatives is shown on Figure 4.2-2.

As shown in Table 4.2-9, the construction of the A7C-FEC-M-Initial Alternative would cost a total of $715 m, which includes $70 m for right-of-way and $645 m for final design and construction. The construction of the A7C-FEC-M-Ultimate Alternative would cost a total of $873 m, which includes $73 m for right-of-way and $800 m for final design and construction.

4.3 ARTERIAL IMPROVEMENTS ALTERNATIVES

The arterial improvement alternatives proposed to be evaluated in the EIS/SEIR are:

Arterial Improvements Only (AIO) Alternative
Arterial Improvements Plus HOV and Spot Mixed Flow Lanes on I-5 (AIP) Alternative

As described earlier in the Preface, the SOCTIIP Collaborative evaluated all the build alternatives based on the findings of the technical reports and identified the AIO Alternative for further consideration in the EIS/SEIR. The SOCTIIP Collaborative further determined that the AIP Alternative would not be carried forward for detailed evaluation in the EIS/SEIR.

Figure 4.1-2 shows the existing circulation system in the SOCTIIP study area. The arterial alternatives assume the MPAH and RTP would be built out in the area as shown on Figure 4.1-4. Each of the arterial improvements assumes additional improvements to the circulation system, beyond those in the MPAH and RTP, as described in the following sections.

4.3.1 ARTERIAL IMPROVEMENTS ONLY ALTERNATIVE

4.3.1.1 Arterial Improvements Under the AIO Alternative

The AIO Alternative assumes full build out of the MPAH and the RTP as shown on Figure 4.1-4. The AIO Alternative incorporates the following additional improvements to the transportation system:

- Expansion of Antonio Parkway/Avenida La Pata to an eight lane smart street from Oso Parkway south to San Juan Creek Road, and to a six lane Smart Street from San Juan Creek Road south to Avenida Pico, as shown on Figure 4.3-1. Antonio Parkway/Avenida La Pata currently exists from south of Ortega Highway to the north as shown on Figure 4.1-2. The MPAH shows Antonio Parkway/La Pata Avenue being extended south to south of Avenida Pico, with a six or four lane cross section, as shown on Figure 4.1-4. The AIO Alternative proposes the expansion of Antonio Parkway/Avenida La Pata between Oso Parkway and just south of Camino Las Ramblas, with the addition of one lane in each direction, beyond the MPAH designations for this road segment. The improved segment between San Juan Creek Road and Avenida Pico would have a total of six travel lanes, and the improved segment from Oso Parkway to San Juan Creek Road would have a total of eight travel lanes, as shown on Figure 4.3-1. A typical cross section for this widened segment of Antonio Parkway/La Pata Avenue is shown on Figure 4.3-2.

- Smart street improvements which include a combination of advanced traffic management strategies such as traffic signal coordination, real time traffic monitoring and surveillance, and traveler information; and modest physical improvements such as additional turn lanes at intersections and select grade separations. Smart street/TSM improvements would be constructed in the existing rights-of-way on Avenida Pico, Camino Las Ramblas, on Ortega Highway between Antonio/La Pata and I-5, and on Avenida La Pata between Avenida Pico and south of Camino Las Ramblas, under the AIO Alternative. The street segments proposed for these TSM improvements are shown on Figure 4.3-1.

- Focused improvements are proposed for the intersections of Antonio Parkway/Avenida La Pata with Avenida Pico, Ortega Highway, Crown Valley Parkway and Oso Parkway as shown on Figure 4.3-1. These improvements would include either left turn flyovers or full grade separated intersections.

4.3.1.2 Construction of the AIO Alternative

The major types of construction equipment anticipated to be used for construction of the AIO Alternative are listed in Table 4.3-1. This equipment would be used for clearing and grubbing, removal of existing pavement, grading, excavation, backfilling, materials and equipment delivery and removal, concrete and asphalt installation, and other construction activities. Staging areas will be used during construction of the AIO Alternative.

The proposed arterial improvements under the AIO Alternative would be constructed in one phase. Existing traffic lanes would be narrowed and temporary K-rail installed to protect the traffic lanes from the construction area. The majority of this construction would occur during the day. Nighttime construction will occur whenever local roads need to be closed. This would occur only in rare circumstances during the construction of the AIO Alternative.

The construction of the AIO Alternative will result in the removal of approximately 4,800,000 cubic meters (6,278,000 (cy) of soil and the placement of approximately 3,700,000 cubic meters (4,840,000 cy) of soil. A total of 1,100,000 cubic meters (1,439,000 cy) of excess soil material would be generated during construction of the AIO Alternative. The construction of the AIO Alternative will result in approximately 1,200,000 cubic meters (1,465,000 cy) of remedial grading. The area anticipated to be disturbed during construction of the AIO Alternative is shown in Appendix B.

The construction of the AIO Alternative is estimated to take approximately 30 months. This assumes the AIO Alternative is constructed under a design/build contract.

If the AIO Alternative is selected, agencies other than the TCA, such as the County or cities, would be responsible for implementing it. It is anticipated that construction of the AIO Alternative could be financed by a combination of developer fees, local, state and federal grants, and other tax supported funding sources. There is no established funding for this Alternative at this time. There is no established funding for this Alternative at this time. No potential funding sources have been identified or reserved for the final design and construction of the AIP Alternative. The TCA is not authorized to use its developer fees or issue bonds for construction of the AIO Alternative.

4.3.1.3 Construction Phasing of the AIO Alternative

It is anticipated that the construction of the AIO Alternative would be phased by the local jurisdictions, based on traffic demand and available financing.

As shown in Table 4.2-9, the construction of the AIO Alternative would cost a total of $522 m, which includes $171 m for right-of-way and $351 m, for final design and construction. No potential funding sources have been identified or reserved for the final design and construction of the AIO Alternative.

4.3.2 ARTERIAL IMPROVEMENTS PLUS HOV AND SPOT MIXED FLOW LANES ON I-5 ALTERNATIVE

4.3.2.1 Arterial and I-5 Improvements Under the AIP Alternative

The AIP Alternative assumes full build out of the MPAH and the RTP as shown on Figure 4.1-4. The AIP Alternative assumes the same arterial improvements described earlier as the AIO Alternative and would include the following additional improvements to the transportation system:

- The addition of one HOV lane on I-5 in each direction between El Toro Road and Cristianitos Road as shown on Figure 4.3-3. A typical cross section for the I-5 widening under the AIP Alternative is provided in Figure 4.3-4.

- The addition of spot mixed flow (auxiliary) lanes on the segments of I-5 between San Juan Creek Road and Ortega Highway and between Avenida Pico and El Camino Real as shown on Figure 4.3-3. A typical cross section for the I-5 widening under the AIP Alternative is provided in Figure 4.3-4.

- A number of bridges, interchanges and other structures on the segment of the I-5 from El Toro Road to Cristianitos Road would be reconstructed as shown in Table 4.3-2.

4.3.2.2 Construction of the AIP Alternative

The major types of construction equipment anticipated to be used for construction of the AIP Alternative are listed in Table 4.3-1. This equipment would be used for clearing and grubbing, removal of existing pavement, grading, excavation, backfilling, materials and equipment delivery and removal, concrete and asphalt installation, and other construction activities. Staging areas will be used during construction of the AIP Alternative.

The proposed arterial and I-5 improvements under the AIP Alternative would be constructed in one phase. Construction of the arterial improvements would be similar to that described earlier for the AIO Alternative.

For the I-5 improvements, existing traffic lanes would be narrowed and temporary K-rail and other barriers installed to protect the traffic lanes from the construction area. The majority of this construction would occur during the day. However, because of the need to remove and replace existing bridge structures, nighttime construction will occur on a number of occasions. It is estimated that a minimum of 78 full night closures will be required, to allow for the demolition of bridges and the installation of falsework. In addition, night closings will occur whenever local roads need to be closed. As a result, construction could extend for approximately 20 hours per day (two 10-hour shifts).

Noise at night will have to comply with local noise ordinances. This may be impossible for large periods of time with the I-5 widening alternatives because bridge demolition and construction will have to occur at night.

Pile Driving and Noisy Construction Activities

- Particularly noisy activities include pile driving, vehicle backup alarms and pavement/concrete breaking.
- Pile driving may occur for the I-5 widening alternative, depending on the individual bridge structures.
- In general, unless a road closure is necessary, pile driving will be conducted during the day in compliance with the applicable local noise ordinance.

There may be a potential need to conduct nighttime pile driving during construction of the I-5 components of the AIP and I-5 Alternatives which directly involve construction on I-5. Where proposed pile driving for I-5 requires a lane closure, it is anticipated that this work will need to be performed at night to minimize associated traffic congestion. Nighttime pile driving will only be allowed on review of the construction plans by the implementing agency to confirm that appropriate noise attenuation measures are in place, including appropriate notification of the public.

Special Issues for the Construction of the I-5 Widening

There are several features of the I-5 widening alternatives that result in significantly different impacts than the other alternatives:

- Substantially more demolition will be needed for the I-5 widening alternatives.
- The area of demolition/construction will be very limited. This may restrict the number of pieces of equipment that can work an area at one time which could extend the required length of construction/demolition, and this may also require more extensive nighttime work.
- Demolition of bridges along the I-5 will have to be done at night. The impactor heads pounding the structures are a very loud noise source.
- Construction/demolition along the I-5 will be very close to residences in many areas. Backup beepers have been a major source of noise complaints on past projects.

Nighttime construction could occur under the AIP Alternative when local roads need to be closed. As a result, construction could extend for approximately 20 hours per day (two, ten-hour shifts). Noise occurring at night will have to comply with local noise ordinances. Particularly noisy activities could include pile driving at I-5, vehicle backup alarms and pavement/concrete breaking.

There are several features of the I-5 widening under the AIP Alternative that are substantially different than under the corridor alternatives:

- Substantially more demolition will be needed for the I-5 widening under the AIP and I-5 Alternatives than under the corridor alternatives.
- The area of demolition/construction for the widening of I-5 will be very limited. This may restrict the number of pieces of equipment that can work in the area at one time, may extend the required length of construction/demolition and may require more extensive nighttime work.
- Demolition of bridges along I-5 will have to be done at night. The impactor heads pounding the structures will be very loud.
- Construction/demolition along I-5 will be very close to residences in many areas. Backup beepers will potentially be a major source of noise during construction of the AIP and I-5 Alternatives.

The construction of the AIP Alternative will result in the removal of approximately 10,300,000 cubic meters (13,500,000 (cy) of soil and the placement of approximately 5,600,000 cubic meters (7,300,000 cy) of soil. A total of 4,700,000 cubic meters (6,140,000 cy) of excess soil material would be generated during construction of the AIP Alternative. The construction of the AIP Alternative will result in approximately 15,600,000 cubic meters (20,370,000 cy) of remedial grading. The area anticipated to be disturbed during construction of the AIP Alternative is shown in Appendix B.

The construction of the AIP Alternative is estimated to take approximately 30 months. This assumes the AIP Alternative is constructed under a design/build contract.

If the AIP Alternative is selected, agencies other than the TCA, such as the County, cities and Caltrans, would be responsible for implementing it. It is anticipated that construction of the AIP Alternative could be financed by a combination of developer fees, local, state and federal grants, and other tax supported funding sources. There is no established funding for this Alternative at this time. The TCA is not authorized to use its developer fees or issue bonds for construction of the AIP Alternative.

4.3.2.3 Construction Phasing of the AIP Alternative

It is anticipated that construction of the arterial improvements under the AIP Alternative would be phased by the local jurisdictions, based on traffic demand and available financing. Construction of the I-5 improvements under the AIP Alternative is also assumed to be phased based on available funding. As shown in Table 4.2-9, the construction of the AIP Alternative would cost a total of $2,142 m, which includes $1,009 m for right-of-way and $1,133 for final design and construction. There is no established funding for this Alternative at this time. No potential funding sources have been identified or reserved for the final design and construction of the AIP Alternative.

4.4 I-5 ALTERNATIVE

4.4.1 I-5 IMPROVEMENTS UNDER THE I-5 ALTERNATIVE

The I-5 Alternative assumes full build out of the MPAH and the RTP as shown on Figure 4.1-4, assumes the following improvements to I-5:

- The addition of either one or two general purpose lanes in each direction between Cristianitos Road and north of Lake Forest Drive; and the provision of one HOV lane in each direction, except where HOV lanes are already programmed between Camino Las Ramblas and Avenida Pico. Additional mixed flow (auxiliary) lanes will be provided on several segments of I-5. Refer to Figure 4.4-1 for the locations of each of the proposed improvements (general purpose lanes, HOV lanes, mixed flow (auxiliary) lanes on I-5 under this Alternative. Figure 4.4-2 provides a typical cross section for I-5 under the I-5 alternative widening.

- A number of bridges, interchanges and other structures on the segment of the I-5 from north of Lake Forest Drive to Cristianitos Road would be reconstructed as shown in Table 4.3-2.

As described earlier in the Preface, the SOCTIIP Collaborative evaluated all the build alternatives based on the findings of the technical reports and identified the I-5 Alternative for further consideration in the EIS/SEIR.

4.4.2 CONSTRUCTION OF THE I-5 ALTERNATIVE

The major types of construction equipment anticipated to be used for construction of the I-5 Alternative are listed in Table 4.3-1. This equipment would be used for clearing and grubbing, removal of existing pavement and structures, grading, excavation, backfilling, materials and equipment delivery and removal, concrete and asphalt installation, and other construction activities. Staging areas would be used during construction of the I-5 Alternative.

The construction of the I-5 improvements under the I-5 Alternative would occur as described earlier for the I-5 improvements under the AIP Alternative. As described earlier for the AIP Alternative, the construction of the widening of I-5 includes features substantially different than under the corridor alternatives, related to the amount of demolition, the more limited demolition/construction limits, the length of construction, the amount of nighttime work, the description of existing traffic and the number of residences impacted in the vicinity of I-5.

The construction of the I-5 Alternative will result in the removal of approximately 6,600,000 cubic meters (8,633,000 (cy) of soil and the placement of approximately 2,300,000 cubic meters (3,008,286 cy) of soil. A total of 4,300,000 cubic meters (5,624,000 cy) of excess soil material would be generated during construction of the I-5 Alternative. Construction of the I-5 Alternative will result in approximately 4,400,000 cubic meters (5,155,000 cy) of remedial grading. The area anticipated to be disturbed during construction of the I-5 Alternative is shown in Appendix B.

Construction of the I-5 Alternative is estimated to take approximately 42 months. This assumes the I-5 Alternative is constructed at one time. Construction of the I-5 Alternative is estimated to take approximately 42 months. This assumes the I-5 Alternative is implemented under a design/build contract. However, if the I-5 construction is phased, based on available funding, it may take substantially longer to construct than 42 months. However, because no funding is yet identified for the I-5 widening, it is not possible to estimate the construction period based on phased construction.

It is anticipated that the construction of the I-5 Alternative would be financed by a combination of local, state and federal grants; other tax supported funding sources; and potentially developer fees provided to local jurisdictions in the area of benefit along I-5. If the I-5 Alternative is selected, agencies other than the TCA, such as Caltrans, would be responsible for implementing it. There is no established funding for the Alternative at this time. The TCA is not authorized to use its developer fees or issue bonds for construction of the I-5 Widening Alternative.

As shown in Table 4.2-9, the construction of the I-5 Alternative would cost a total of $2,405, which includes $1,074 m for right-of-way and $1,331 m for final design and construction. There is no established funding for this Alternative at this time. No potential funding sources have been identified or reserved for the final design and construction of the I-5 Alternative.

4.4.3 CONSTRUCTION PHASING FOR THE I-5 ALTERNATIVE

It is anticipated that the construction of the I-5 Alternative would be phased based on available funding.

4.5 NO ACTION ALTERNATIVES

4.5.1 OBJECTIVE OF THE NO ACTION ALTERNATIVE

The No Action Alternative under NEPA (referred to as the No Project Alternative under CEQA) is included in an EIS to provide a basis for comparison with what would happen without the federal lead agency's approval of the proposed project or other action alternatives. In an EIS, the No Action Alternative is analyzed at the same level of detail as the proposed project and other build alternatives.

The CEQA Guidelines state that "The purpose of describing and analyzing a no project alternative is to allow decision makers to compare the impacts of approving the proposed project with the impacts of not approving the proposed project." (California Code of Regulations Section 15126.6(e)(1)). In accordance with the CEQA Guidelines, the EIS/SEIR evaluates the impacts of the project alternatives against existing conditions and against projected future conditions. In this manner, the EIS/SEIR evaluates both the impact of the project alternatives against current environmental conditions and against the environmental conditions likely to exist at during the life of the project alternatives.

To comply with the requirements of NEPA and CEQA, it is critical to define and describe the No Action Alternative. Because the EIS/SEIR will be a joint NEPA/CEQA document, the term "No Action Alternative" will be used consistently in this technical report and is intended to meet the requirements of NEPA for the No Action Alternative and of CEQA for the No Project Alternative. As described in this Section, two No Action Alternatives for the SOCTIIP have been identified.

4.5.2 METHODOLOGY FOR DEFINING THE NO ACTION ALTERNATIVES

The No Action Alternatives were based on consideration of several specific factors as described in the following sections. In defining the No Action Alternatives, it was necessary to make certain assumptions regarding the background road system and the background land use patterns. These conditions will be used to forecast future conditions without the proposed project. These assumptions are based on the planned road network shown on local jurisdictions' General Plan Circulation Elements, anticipated land uses and land use patterns based on build out of local jurisdictions' adopted General Plan LUEs and regionally adopted population growth assumptions and proposed development plans for the RMV property. For the SOCTIIP, these assumptions will be based on the MPAH, the LUEs of the local jurisdictions' General Plans and the OCP-2000 growth projections, as described in the following sections. In addition, certain assumptions must be made regarding regional transportation improvements, based on the adopted RTP. (RTP, SCAG, April 2000, as amended through March 2002).

4.5.3 NO ACTION ALTERNATIVES FOR THE EIS/SEIR

Based on consideration of the No Action/No Project Alternative requirements under NEPA and CEQA and the factors described above, two No Action Alternatives were defined by the Collaborative for evaluation in detail in the EIS/SEIR, for all environmental parameters. These Alternatives vary in the number of dus assumed on the RMV property and in the on site circulation improvements assumed to support the development on the Ranch. Specifically, the first No Action Alternative assumes the OCP-2000 demographic projections for Orange County, which is consistent with the demographic assumptions in the RTP and as required by the federal Clean Air Act. The second No Action Alternative assumes fewer dus on the RMV property and, because it is consistent with the current proposed RMV development plan, it reflects current reasonably foreseeable development levels in this part of Orange County.

These No Action Alternatives are described in the following sections and are summarized in Table 4.5-1.

4.5.3.1 No Action Alternative - OCP-2000

This No Action Alternative assumes the following:

- Build out of the LUEs of the General Plans for the cities and unincorporated Orange County.

- OCP-2000 population and employment projections for 2025, which assume substantial development in CAAs 59, 60 and 70 as shown on Table 4.1-2. This specifically assumes the construction of approximately 35,888 additional dus in CAAs 59, 60 and 70 by 2025, including a total of 21,000 dus on the RMV site.

- Build out of the MPAH, with all arterials constructed to their ultimate cross sections consistent with the MPAH and as shown on Figure 4.1-4.

- Build out of the RTP improvements in South Orange County as shown on Figure 4.1-4.

- No extension of the existing FTC-North south of its existing terminus at Oso Parkway.

- An on site circulation system on the RMV property, to support the 21,000 dus forecasted in OCP-2000. This on site circulation system will be defined conceptually in the traffic analysis.

4.5.3.2 No Action Alternative – RMV Development Plan

This No Action Alternative assumes:

- Build out of the LUEs of the General Plans for the cities and unincorporated Orange County.

- OCP-2000 population and employment projections for 2025, which assumed substantial development in CAAs 59, 60 and 70. Under this No Action Alternative, the 21,000 dus assumed on the RMV under OCP-2000 would be replaced by the 14,000 dus proposed on the RMV by the Company would be included.

- Build out of the MPAH, with all arterials constructed to their ultimate cross sections consistent with the MPAH and as shown on Figure 4.1-4.

- Build out of the RTP improvements in south Orange County as shown on Figure 4.1-4.

- No extension of the existing FTC-North south of its existing terminus at Oso Parkway.

- An on site circulation system on the RMV property, to support the 14,000 dus proposed by the Company, based on the on site circulation system defined by the RMV for the 14,000 du development plan.

4.6 NO ACTION SPECIAL STUDIES SCENARIOS

4.6.1 OVERVIEW

In addition to the No Action Alternatives, some of the environmental analyses will consider additional No Action scenarios based on different assumptions than those included in the No Action Alternatives. These No Action scenarios are described in the following sections and are summarized in Table 4.6-1. Specifically, these No Action Scenarios will test the sensitivity of changes in development levels and the transportation network related to traffic, air quality, growth inducement and cumulative impacts.

4.6.2 NO ACTION SCENARIO 1: COMMITTED MPAH AND RTP ONLY AND OCP-2000

This No Action Scenario assumes:

- Build out of the General Plans, plus additional growth based on the development of 21,000 units on the RMV, based on the OCP-2000 projections.
- Construction of committed and funded MPAH and RTP improvements only as shown on Figure 4.1-3. This scenario does not include build out of the MPAH and there would be no TSM enhancements to the arterial system. This scenario includes assumptions for on site circulation on the RMV property, to support the 21,000 dus forecasted under OCP-2000, based on the on site circulation system proposed by the RMV Company for the 14,000 dus proposal. If no information is available about the on site circulation system, a conceptual system will be defined in the traffic analysis for this scenario.
- No extension of the existing FTC-N south of its existing terminus at Oso Parkway.

4.6.3 NO ACTION SCENARIO 2: COMMITTED MPAH AND RTP ONLY AND RMV DEVELOPMENT PLAN

This No Action Scenario assumes the following:

- Build out of the General Plans, plus additional growth based on the development of 14,000 dus as proposed by the RMV Company in July 2001.
- Construction of committed and funded MPAH and RTP improvements only shown on Figure 4.1-3. This scenario does not assume build out of the MPAH and there would be no TSM enhancements to the arterial system. This scenario includes assumptions for on site circulation on the RMV property, to support the 14,000 dus proposed by the Company. If no information is available about the on site circulation system, a conceptual system will be defined in the traffic analysis.
- No extension of the existing FTC-N south of its existing terminus at Oso Parkway.

4.6.4 NO ACTION SCENARIO 3: COMMITTED MPAH AND RTP AND GENERAL PLAN LAND USE

This No Action Scenario assumes the following:

- OCP-2000 population and employment projections for 2025, excluding the approximately 21,000 new dus assumed in CAAs 59, 60 and 70 for the RMV, but including the approximately 6,250 dus that could be constructed on the RMV under the existing LUE. All other growth assumed for these three CAAs and all other CAAs under OCP-2000 would be consistent with the projections in OCP-2000 shown earlier in Table 4.1-2.

- Construction of committed and funded MPAH and RTP improvements only as shown on Figure 4.1-3. This scenario does not assume build out of the MPAH and there would be no TSM enhancements to the arterial system. The committed and funded MPAH improvements assumed in this scenario will be defined in detail in the traffic analysis. This scenario does not include any other assumptions regarding circulation because the 6,250 dus are currently shown in the LUE. The Circulation Element and the LUE are required to be consistent. Therefore, the 6,250 dus are understood to be supported by the current Circulation Element.

- No extension of the existing FTC-N south of its existing terminus at Oso Parkway.

4.6.5 NO ACTION SCENARIO 4: COMMITTED MPAH AND RTP ONLY AND CONSTRAINED LAND USE

This No Action Scenario assumes the following:

- OCP-2000 population and employment projections for 2025, excluding 21,000 of the approximately 35,888 new dus assumed in CAAs 59, 60 and 70. This scenario assumes no development on the RMV property in these three CAAs. All other growth assumed for these three CAAs and all other CAAs under OCP-2000 would be consistent with the projections in OCP-2000 shown earlier in Table 4.1-2.

- Construction of committed and funded MPAH and RTP improvements only. This scenario does not assume build out of the MPAH and there would be no TSM enhancements to the arterial system.

- No extension of the existing FTC-N south of its existing terminus at Oso Parkway.

TABLE 4.1-1
OVERVIEW OF THE SOCTIIP ALTERNATIVES [1]

TOLL ROAD CORRIDOR ALTERNATIVES	
FAR EAST CORRIDOR ALIGNMENT ALTERNATIVES	**ABBREVIATED NAMES**
Far East Corridor - Complete - Initial Alternative	FEC - Initial Alternative
Far East Corridor - Complete - Ultimate Alternative	FEC - Ultimate Alternative
Far East Corridor - Talega Variation - Initial Alternative	FEC-TV - Initial Alternative
Far East Corridor - Talega Variation - Ultimate Alternative	FEC-TV - Ultimate Alternative
Far East Corridor - Cristianitos Variation - Initial Alternative	FEC-CV - Initial Alternative
Far East Corridor - Cristianitos Variation - Ultimate Alternative	FEC-CV - Ultimate Alternative
Far East Corridor - Agricultural Fields Variation - Initial Alternative	FEC-AFV - Initial Alternative
Far East Corridor - Agricultural Fields Variation - Ultimate Alternative	FEC-AFV - Ultimate Alternative
Far East Corridor - Ortega Highway Variation - Initial Alternative	FEC-OHV - Initial Alternative
Far East Corridor - Ortega Highway Variation - Ultimate Alternative	FEC-OHV - Ultimate Alternative
Far East Corridor - Avenida Pico Variation - Initial Alternative	FEC-APV - Initial Alternative
Far East Corridor - Avenida Pico Variation - Ultimate Alternative	FEC-APV - Ultimate Alternative
Far East Corridor-West-Initial Alternative	*FEC-W-Initial Alternative*
Far East Corridor-West-Ultimate Alternative	*FEC-W-Ultimate Alternative*
Far East Corridor-Modified-Initial Alternative	*FEC-M-Initial Alternative*
Far East Corridor-Modified-Ultimate Alternative	*FEC-M-Ultimate Alternative*
CENTRAL CORRIDOR ALIGNMENT ALTERNATIVES	**ABBREVIATED NAMES**
Central Corridor - Complete - Initial Alternative	*CC - Initial Alternative*
Central Corridor - Complete - Ultimate Alternative	*CC - Ultimate Alternative*
Central Corridor - Avenida La Pata Variation - Initial Alternative	*CC-ALPV - Initial Alternative*
Central Corridor - Avenida La Pata Variation - Ultimate Alternative	*CC-ALPV - Ultimate Alternative*
Central Corridor - Ortega Highway Variation - Initial Alternative	CC-OHV - Initial Alternative
Central Corridor - Ortega Highway Variation - Ultimate Alternative	CC-OHV - Ultimate Alternative
ALIGNMENT 7 CORRIDOR ALIGNMENT ALTERNATIVES	**ABBREVIATED NAMES**
Alignment 7 Corridor - Complete - Initial Alternative	A7C - Initial Alternative
Alignment 7 Corridor - Complete - Ultimate Alternative	A7C - Ultimate Alternative
Alignment 7 Corridor - 7 Swing Variation - Initial Alternative	A7C-7SV - Initial Alternative
Alignment 7 Corridor - 7 Swing Variation - Ultimate Alternative	A7C-7SV - Ultimate Alternative
Alignment 7 Corridor - Far East Crossover Variation - Initial Alternative	A7C-FECV - Initial Alternative
Alignment 7 Corridor - Far East Crossover Variation - Ultimate Alternative	A7C-FECV - Ultimate Alternative
Alignment 7 Corridor - Far East Crossover (Cristianitos) Variation - Initial Alternative	A7C-FECV-C - Initial Alternative
Alignment 7 Corridor - Far East Crossover (Cristianitos) Variation - Ultimate Alternative	A7C-FECV-C - Ultimate Alternative
Alignment 7 Corridor - Far East Crossover (Agricultural Fields) Variation - Initial Alternative	A7C-FECV-AF - Initial Alternative
Alignment 7 Corridor - Far East Crossover (Agricultural Fields) Variation - Ultimate Alternative	A7C-FECV-AF - Ultimate Alternative
Alignment 7 Corridor - Ortega Highway Variation - Initial Alternative	A7C-OHV - Initial Alternative

TABLE 4.1-1
OVERVIEW OF THE SOCTIIP ALTERNATIVES [1]

TOLL ROAD CORRIDOR ALTERNATIVES	
Alignment 7 Corridor - Ortega Highway Variation - Ultimate Alternative	A7C-OHV - Ultimate Alternative
Alignment 7 Corridor - Avenida La Pata Variation - Initial Alternative	*A7C-ALPV - Initial Alternative*
Alignment 7 Corridor - Avenida La Pata Variation - Ultimate Alternative	*A7C-ALPV - Ultimate Alternative*
Alignment 7 Corridor-Far East Crossover-Modified-Initial Alternative	*A7C-FEC-M-Initial Alternative*
Alignment 7 Corridor-Far East Crossover-Modified -Ultimate Alternative	*A7C-FEC-M-Ultimate Alternative*
NON-TOLL ROAD ALTERNATIVES	
ARTERIAL IMPROVEMENTS ALTERNATIVES	**ABBREVIATED NAMES**
Arterial Improvements Only - Alternative	*AIO Alternative*
Arterial Improvements Only Plus HOV and Spot Mixed-Flow Lanes on I-5 Alternative	AIP Alternative
I-5 ALTERNATIVE	**ABBREVIATED NAMES**
I-5 Widening Alternative	*I-5 Alternative*
NO ACTION ALTERNATIVES	**ABBREVIATED NAMES**
No Action Alternative - Orange County Projections 2000	*No Action Alternative - OCP-2000*
No Action Alternative - Rancho Mission Viejo (RMV) Development Plan	*No Action Alternative - RMV*

Source: TCA and P&D Consultants (2002).

(1) As part of the SOCTIIP Collaborative process, the Collaborative members reviewed the alternatives evaluated in the technical reports and identified those alternatives to be carried forward into the EIS/SEIR and those alternatives that would not be advanced for detailed discussion in the EIS/SEIR. The alternatives advanced for detailed evaluation in the EIS/SEIR, based on decisions by the Collaborative in July and August 2003, are shown in *italics* in this table.

FIGURE 4.1-1
ALIGNMENTS OF THE BUILD ALTERNATIVES
[page 1 of 1; 8.5 x 11]

FIGURE 4.1-2
EXISTING CIRCULATION SYSTEM
[page 1 of 1; 11x17]

FIGURE 4.1-3
COMMITTED CIRCULATION SYSTEM
[11x17; one page]

FIGURE 4.1-4
MPAH/RTP BUILDOUT CIRCULATION SYSTEM
[11x17; one page]

FIGURE 4.1-5
ORANGE COUNTY COMMUNITY ANALYSIS AREAS
[page 1 of 1; 8.5 x 11]

TABLE 4.1-2
OCP-2000 PROJECTIONS FOR SOUTH ORANGE COUNTY COMMUNITY ANALYSIS AREAS

	July 2000		July 2025		Difference (July 2000 to July 2025)		Percent of Total Change (July 2000 to July 2025)	
CAA	**Housing**	**Employment (jobs)**	**Housing**	**Employment (jobs)**	**Housing**	**Employment (jobs)**	**Housing**	**Employment (jobs)**
53	0	37,746	0	59,553	0	21,807	0.0%	22.3%
57	8,428	8,568	8,428	9,808	0	1,240	0.0%	1.3%
58	36,450	27,547	37,771	32,452	1,321	4,905	2.8%	5.0%
59	20,967	19,302	40,696	32,072	19,729	12,770	42.0%	13.1%
60	830	536	14,540	11,388	13,710	10,852	29.2%	11.1%
62	27,410	24,763	28,515	29,991	1,105	5,228	2.4%	5.3%
63	21,830	25,995	25,243	42,989	3,413	16,994	7.3%	17.4%
64	25,482	15,452	26,145	20,334	663	4,882	1.4%	5.0%
66	3,129	4,664	3,214	6,392	85	1,728	0.2%	1.8%
67	2,515	2,113	2,682	3,129	167	1,016	0.4%	1.0%
68	14,085	18,957	16,292	23,991	2,207	5,034	4.7%	5.2%
69	18,252	18,848	20,367	29,825	2,115	10,977	4.5%	11.2%
70	8,231	2,702	10,680	3,014	2,449	312	5.2%	0.3%
TOTAL	187,609	207,193	234,573	304,938	46,964	97,745	100.0%	100.0%

Source: Orange County Projections 2000 (Center for Demographic Research, September 2000).

TABLE 4.1-3
OCP-2000 COMMUNITY ANALYSIS AREAS
RESIDENTIAL ALLOCATION

OCP-2000 Community Analysis Area	2000	2025	Difference
59	20,967	40,696	19,729
60	830	14,540	13,710
70	8,231	10,680	2,449
TOTAL	**30,028**	**65,916**	**35,888**
Talega, Ladera and RMV OCP-2000 du Allocation Total			34,065
Difference (Other development area dus)			1,823
Percent of du total in CAAs 59, 60 and 70 represented by Talega, Ladera and RMV (with 21,000 dus assumed)			95%

Source: Orange County Projections 2000 (Center for Demographic Research, September 2000).

TABLE 4.1-4
GENERAL PLAN AND OCP-2000 COMPARISON

Area	Dwelling Units Under General Plan Designations	OCP-2000 Community Analysis Area	OCP-2000 Dwelling Unit Allocation (2025)	Difference Between Entitled/General Plan and OCP-2000 (2025)
Talega/Rolling Hills	4, 965 Entitled [1]	60	4,965	0
Ladera Ranch	8,100 Entitled [1]	59	8,100	0
Rancho Mission Viejo	6,250 General Plan/Zoning [2]	59, 60 and 70	21,000	14,750
TOTAL	**19,315**	**n/a**	**34,065**	**14,750**

(1) Entitled" is defined as having primary approvals for this maximum dwelling unit total.
(2) General Plan/Zoning" is defined as shown on the General Plan and Zoning Code, but having no approved permits or maps to pursue this level of development.
Source: Orange County Projections 2000 (Center for Demographic Research, September 2000).

FIGURE 4.1-6
TRANSIT SERVICES
[one page; color; 8.5/11]

FIGURE 4.2-1
TYPICAL CORRIDOR CROSS SECTIONS
[page 1 of 2; 8.5 x 11]

FIGURE 4.2-1
TYPICAL CORRIDOR CROSS SECTIONS
[page 2 of 2; 8.5 x 11]

TABLE 4.2-1
SUMMARY OF INTERCHANGES FOR THE INITIAL AND ULTIMATE CORRIDOR ALTERNATIVES

Initial and Ultimate Corridor Alternative	Oso Parkway	Ortega Highway	Avenida Pico	Cristianitos Road	I-5	Avenida Vista Hermosa	Calle del Cerro (Avenida Pico)	Crown Valley Parkway (2)	C Street
FAR EAST CORRIDOR ALIGNMENT ALTERNATIVES									
FEC-Initial Alternative	✓	✓	✓	✓	✓			✓	
FEC-Ultimate Alternative	✓	✓	✓	✓	✓			✓	
FEC-TV-Initial Alternative	✓	✓			✓	✓	✓	✓	
FEC-TV-Ultimate Alternative	✓	✓			✓	✓	✓	✓	
FEC-CV-Initial Alternative	✓	✓	✓	✓(1)	✓(3)			✓	
FEC-CV-Ultimate Alternative	✓	✓	✓	✓(1)	✓(3)			✓	
FEC-AFV-Initial Alternative	✓	✓	✓	✓	✓			✓	
FEC-AFV-Ultimate Alternative	✓	✓	✓	✓	✓			✓	
FEC-OHV-Initial Alternative	✓	✓(1)						✓	
FEC-OHV-Ultimate Alternative	✓	✓						✓	
FEC-APV-Initial Alternative	✓	✓	✓(1)					✓	
FEC-APV-Ultimate Alternative	✓	✓	✓(1)					✓	
FEC-W-Initial Alternative	✓	✓	✓	✓	✓				✓
FEC-W-Ultimate Alternative	✓	✓	✓	✓	✓				✓
FEC-M-Initial Alternative	✓	✓	✓	✓	✓				✓
FEC-M-Ultimate Alternative	✓	✓	✓	✓	✓				✓
CENTRAL CORRIDOR ALIGNMENT ALTERNATIVES									
CC-Initial Alternative	✓	✓			✓	✓	✓	✓	
CC-Ultimate Alternative	✓	✓			✓	✓	✓	✓	
CC-ALPV-Initial Alternative	✓	✓				✓(1)		✓	
CC-ALPV-Ultimate Alternative	✓	✓				✓		✓	
CC-OHV-Initial Alternative	✓	✓(1)						✓	
CC-OHV-Ultimate Alternative	✓	✓						✓	
ALIGNMENT 7 CORRIDOR ALIGNMENT ALTERNATIVES									
A7C-Initial Alternative	✓	✓			✓	✓	✓	✓	
A7C-Ultimate Alternative	✓	✓			✓	✓	✓	✓	

TABLE 4.2-1
SUMMARY OF INTERCHANGES FOR THE INITIAL AND ULTIMATE CORRIDOR ALTERNATIVES

Initial and Ultimate Corridor Alternative	Oso Parkway	Ortega Highway	Avenida Pico	Cristianitos Road	I-5	Avenida Vista Hermosa	Calle del Cerro (Avenida Pico)	Crown Valley Parkway (2)	C Street
A7C-7SV-Initial Alternative	✓	✓			✓	✓	✓	✓	
A7C-7SV-Ultimate Alternative	✓	✓			✓	✓	✓	✓	
A7C-FECV-Initial Alternative	✓	✓	✓	✓	✓			✓	
A7C-FECV-Ultimate Alternative	✓	✓	✓	✓	✓			✓	
A7C-FECV-C-Initial Alternative	✓	✓	✓	✓(1)	✓(3)			✓	
A7C-FECV-C-Ultimate Alternative	✓	✓	✓	✓(1)	✓(3)			✓	
A7C-FECV-AF-Initial Alternative	✓	✓	✓	✓	✓			✓	
A7C-FECV-AF-Ultimate Alternative	✓	✓	✓	✓	✓			✓	
A7C-OHV-Initial Alternative	✓	✓(1)						✓	
A7C-OHV-Ultimate Alternative	✓	✓						✓	
A7C-ALPV-Initial Alternative	✓	✓				✓(1)		✓	
A7C-ALPV-Ultimate Alternative	✓	✓				✓		✓	
A7C-FEC-M-Initial Alternative	✓	✓	✓	✓					✓
A7C-FEC-M-Ultimate Alternative	✓	✓	✓	✓					✓

(1) Intersection, not an interchange.
(2) Future arterial highway intersection with corridor would be constructed by others; not a part of these corridor alternatives.
(3) Reconstruct existing interchange.
Source: CDMG and P&D Consultants (2002).

FIGURE 4.2-2
TYPICAL CROSS SECTION FOR I-5 IMPROVEMENTS UNDER THE CORRIDOR ALTERNATIVES
[Page 1 of 1; 8 ½ x 11; b/w]

TABLE 4.2-2
SUMMARY OF BRIDGE STRUCTURES FOR THE INITIAL AND ULTIMATE CORRIDOR ALTERNATIVES SPANNING WATER AND NATURAL RESOURCES

Initial and Ultimate Corridor Alternatives	Cañada Gobernadora	Cañada Chiquita	San Juan Creek	Blind/ Gabino Creek	Cristianitos Creek	San Mateo Creek	San Onofre Creek
FAR EAST CORRIDOR ALIGNMENT ALTERNATIVES							
FEC-Initial Alternative	✓		✓(1)	✓	✓	✓	✓
FEC-Ultimate Alternative	✓		✓(1)	✓	✓	✓	✓
FEC-TV-Initial Alternative	✓		✓(1)				
FEC-TV-Ultimate Alternative	✓		✓(1)				
FEC-CV-Initial Alternative	✓		✓(1)	✓	✓		
FEC-CV-Ultimate Alternative	✓		✓(1)	✓	✓		
FEC-AFV-Initial Alternative	✓		✓(1)	✓	✓	✓	✓
FEC-AFV-Ultimate Alternative	✓		✓(1)	✓	✓	✓	✓
FEC-OHV-Initial Alternative	✓		✓				
FEC-OHV-Ultimate Alternative	✓		✓				
FEC-APV-Initial Alternative	✓		✓(1)	✓	✓		
FEC-APV-Ultimate Alternative	✓		✓(1)	✓	✓		
FEC-W-Initial Alternative	✓		✓		✓	✓	✓
FEC-W-Ultimate Alternative	✓		✓		✓	✓	✓
FEC-M-Initial Alternative	✓		✓		✓	✓	✓
FEC-M-Ultimate Alternative	✓		✓		✓	✓	✓
CENTRAL CORRIDOR ALIGNMENT ALTERNATIVES							
CC-Initial Alternative			✓				
CC-Ultimate Alternative			✓				
CC-ALPV-Initial Alternative			✓				
CC-ALPV-Ultimate Alternative			✓				
CC-OHV-Initial Alternative			✓				
CC-OHV-Ultimate Alternative			✓				
ALIGNMENT 7 CORRIDOR ALIGNMENT ALTERNATIVES							
A7C-Initial Alternative		✓	✓				
A7C-Ultimate Alternative		✓	✓				
A7C-7SV-Initial Alternative		✓	✓				
A7C-7SV-Ultimate Alternative		✓	✓				

TABLE 4.2-2
SUMMARY OF BRIDGE STRUCTURES FOR THE INITIAL AND ULTIMATE CORRIDOR ALTERNATIVES SPANNING WATER AND NATURAL RESOURCES

Initial and Ultimate Corridor Alternatives	Cañada Gobernadora	Cañada Chiquita	San Juan Creek	Blind/ Gabino Creek	Cristianitos Creek	San Mateo Creek	San Onofre Creek
A7C-FECV-Initial Alternative		✓	✓			✓	✓
A7C-FECV-Ultimate Alternative		✓	✓			✓	✓
A7C-FECV-C-Initial Alternative		✓	✓				
A7C-FECV-C-Ultimate Alternative		✓	✓				
A7C-FECV-AF-Initial Alternative		✓	✓			✓	✓
A7C-FECV-AF-Ultimate Alternative		✓	✓			✓	✓
A7C-OHV-Initial Alternative			✓				
A7C-OHV-Ultimate Alternative			✓				
A7C-ALPV-Initial Alternative		✓	✓				
A7C-ALPV-Ultimate Alternative		✓	✓				
A7C-FEC-M-Initial Alternative			✓			✓	✓
A7C-FEC-M-Ultimate Alternative			✓			✓	✓

(1) Two bridge structures would be constructed at this crossing.
Source: CDMG and P&D Consultants (2003).

TABLE 4.2-3
SUMMARY OF BRIDGE STRUCTURES FOR THE INITIAL AND ULTIMATE CORRIDOR ALTERNATIVES SPANNING LOCAL ROADS

Initial and Ultimate Corridor Alternatives	Avenida La Pata overcrossing	Via Sonrisa/ Onda overcrossing	Camino Vera Cruz overcrossing	Calle Frontera overcrossing	Avenida La Pata undercrossing	Cristianitos/ Ford Road undercrossing	Cristianitos Road (North) undercrossing	Quarry Access undercrossing
FAR EAST CORRIDOR ALIGNMENT ALTERNATIVES								
FEC-Initial Alternative						✓		
FEC-Ultimate Alternative						✓		
FEC-TV-Initial Alternative		✓	✓	✓	✓	✓		
FEC-TV-Ultimate Alternative		✓	✓	✓	✓	✓		
FEC-CV-Initial Alternative						✓		
FEC-CV-Ultimate Alternative						✓		
FEC-AFV-Initial Alternative						✓		
FEC-AFV-Ultimate Alternative						✓		
FEC-OHV-Initial Alternative								
FEC-OHV-Ultimate Alternative								
FEC-APV-Initial Alternative						✓		
FEC-APV-Ultimate Alternative						✓		
FEC-W-Initial Alternative							✓	
FEC-W-Ultimate Alternative							✓	
FEC-M-Initial Alternative								
FEC-M-Ultimate Alternative								
CENTRAL CORRIDOR ALIGNMENT ALTERNATIVES								
CC-Initial Alternative	✓	✓	✓	✓				
CC-Ultimate Alternative	✓	✓	✓	✓				
CC-ALPV-Initial Alternative								
CC-ALPV-Ultimate Alternative								
CC-OHV-Initial Alternative								
CC-OHV-Ultimate Alternative								
ALIGNMENT 7 CORRIDOR ALIGNMENT ALTERNATIVES								
A7C-Initial Alternative		✓	✓	✓	✓			
A7C-Ultimate Alternative		✓	✓	✓	✓			
A7C-7SV-Initial Alternative	✓	✓	✓	✓				

TABLE 4.2-3
SUMMARY OF BRIDGE STRUCTURES FOR THE INITIAL AND ULTIMATE CORRIDOR ALTERNATIVES SPANNING LOCAL ROADS

Initial and Ultimate Corridor Alternatives	Avenida La Pata overcrossing	Via Sonrisa/ Onda overcrossing	Camino Vera Cruz overcrossing	Calle Frontera overcrossing	Avenida La Pata undercrossing	Cristianitos/ Ford Road undercrossing	Cristianitos Road (North) undercrossing	Quarry Access undercrossing
A7C-7SV-Ultimate Alternative	✓	✓	✓	✓				
A7C-FECV-Initial Alternative								
A7C-FECV-Ultimate Alternative								
A7C-FECV-C-Initial Alternative								
A7C-FECV-C-Ultimate Alternative								
A7C-FECV-AF-Initial Alternative								
A7C-FECV-AF-Ultimate Alternative								
A7C-OHV-Initial Alternative								
A7C-OHV-Ultimate Alternative								
A7C-ALPV-Initial Alternative								
A7C-ALPV-Ultimate Alternative								
A7C-FEC-M-Initial Alternative								✓
A7C-FEC-M-Ultimate Alternative								✓

Source: CDMG and P&D Consultants (2003).

TABLE 4.2-4
SUMMARY OF CUT, FILL AND REMEDIAL AMOUNTS FOR THE INITIAL AND ULTIMATE CORRIDOR ALTERNATIVES

Initial and Ultimate Corridor Alternative	Estimated Cut in 1000s of Cubic Meters (cubic yards)	Estimated Fill in Cubic Meters (cubic yards)	Total Net in Cubic Meters (cubic yards)	Remedial in Cubic Meters (cubic yards)
FAR EAST CORRIDOR ALIGNMENT ALTERNATIVES				
FEC-Initial Alternative	-14,200 (-18,574)	11,900 (15,565)	-2,300 (-3,008)	20,600 (26,945)
FEC-Ultimate Alternative	-20,800 (-27,206)	19,300 (25,244)	-1,500 (-1,962)	22,000 (28,776)
FEC-TV-Initial Alternative	-17,400 (-22,760)	14,000 (18,312)	-3,400 (-4,447)	17,700 (23,152)
FEC-TV-Ultimate Alternative	-21,800 (-28,514)	14,100 (18,443)	-7,700 (-10,716)	19,000 (24,852)
FEC-CV-Initial Alternative	-10,900 (-14,257)	7,100 (9,287)	-3,800 (-4,970)	16,800 (21,974)
FEC-CV-Ultimate Alternative	-14,100 (-18,443)	11,800 (15,434)	-2,300 (-3,008)	18,500 (24,198)
FEC-AFV-Initial Alternative	-11,800 (-15,434)	10,900 (14,257)	-900 (-1,177)	17,500 (22,890)
FEC-AFV-Ultimate Alternative	-14,700 (-19,228)	15,200 (19,882)	+500 (+654)	18,800 (24,590)
FEC-OHV-Initial Alternative	-4,300 (-5,624)	4,100 (5,363)	-200 (-261)	5,200 (6,802)
FEC-OHV-Ultimate Alternative	-9,400 (-12,295)	6,900 (9,025)	-2,500 (-3,270)	6,400 (8,371)
FEC-APV-Initial Alternative	-8,800 (-11,510)	7,400 (9,679)	-1,400 (-1,831)	12,800 (16,742)
FEC-APV-Ultimate Alternative	-12,000 (-15,696)	12,300 (16,085)	+300 (+392)	14,200 (18,574)
FEC-W-Initial Alternative	-12,771 (-16,704)	13,062 (17,085)	+292 (+382)	11,837 (15,483)
FEC-W-Ultimate Alternative	-14,993 (-19,610)	15,864 (20,750)	+871 (+1,139)	12,500 (16,350)
FEC-M-Initial Alternative	-14,307 (-18,714)	11,008 (14,398)	-3,299 (-4,315)	13,513 (17,675)
FEC-M-Ultimate Alternative	-16,732 (-21,885)	13,712 (17,935)	-3,019 (-3,949)	14,200 (18,574)
CENTRAL CORRIDOR ALIGNMENT ALTERNATIVES				
CC-Initial Alternative	-11,600 (-15,173)	8,900 (11,641)	-2,700 (-3,532)	31,100 (40,679)
CC-Ultimate Alternative	-19,400 (-25,375)	14,600 (19,097)	-4,800 (-6,278)	32,400 (42,379)
CC-ALPV-Initial Alternative	-6,700 (8,764)	7,000 (9,156)	+300 (+392)	28,600 (37,409)
CC-ALPV-Ultimate Alternative	-10,500 (-13,734)	10,800 (14,126)	+300 (+392)	29,500 (38,586)
CC-OHV-Initial Alternative	-1,900 (-2,485)	2,100 (2,747)	+200 (+261)	13,500 (17,658)
CC-OHV-Ultimate Alternative	-3,800 (-4,970)	3,000 (5,924)	-800 (-1,046)	13,500 (17,658)
ALIGNMENT 7 CORRIDOR ALIGNMENT ALTERNATIVES				
A7C-Initial Alternative	-37,800 (-49,442)	35,500 (46,434)	-2,300 (-3,008)	30,500 (39,894)
A7C-Ultimate Alternative	-49,000 (-64,092)	43,600 (57,028)	-5,400 (-7,063)	30,600 (40,025)
A7C-7SV-Initial Alternative	-40,700 (-53,236)	30,500 (38,894)	-10,200 (-13,342)	27,000 (35,316)
A7C-7SV-Ultimate Alternative	-52,800 (-69,062)	38,200 (44,236)	-14,600 (-19,097)	26,500 (34,662)
A7C-FECV-Initial Alternative	-41,300 (-54,020)	31,400 (41,071)	-9,900 (-12,949)	34,500 (45,126)
A7C-FECV-Ultimate Alternative	-43,700 (-57,160)	36,900 (48,265)	-6,800 (-8,894)	35,700 (46,696)
A7C-FECV-C-Initial Alternative	-38,000 (-49,704)	26,600 (34,793)	-11,400 (-14,911)	30,600 (40,025)

TABLE 4.2-4
SUMMARY OF CUT, FILL AND REMEDIAL AMOUNTS FOR THE INITIAL AND ULTIMATE CORRIDOR ALTERNATIVES

Initial and Ultimate Corridor Alternative	Estimated Cut in 1000s of Cubic Meters (cubic yards)	Estimated Fill in Cubic Meters (cubic yards)	Total Net in Cubic Meters (cubic yards)	Remedial in Cubic Meters (cubic yards)
A7C-FECV-C-Ultimate Alternative	-51,300 (-67,100)	44,600 (58,337)	-6,700 (-8,764)	31,500 (41,202)
A7C-FECV-AF-Initial Alternative	-39,200 (-51,274)	30,400 (39,763)	-8,800 (-11,510)	31,300 (40,940)
A7C-FECV-AF-Ultimate Alternative	-51,400 (-67,231)	46,300 (60,560)	-5,100 (-5,294)	32,200 (42,118)
A7C-OHV-Initial Alternative	-3,700 (-4,840)	7,900 (10,333)	+4,200 (+5,493)	5,900 (7,712)
A7C-OHV-Ultimate Alternative	-4,500 (-5,886)	12,200 (15,958)	+7,700 (+10,071)	6,100 (7,979)
A7C-ALPV-Initial Alternative	-33,300 (-43,556)	33,800 (44,210)	+500 (+654)	27,500 (35,970)
A7C-ALPV-Ultimate Alternative	-34,500 (-45,124)	34,000 (44,470)	+1,700 (+2,224)	27,500 (35,970)
A7C-FEC-M-Initial Alternative	-12,149 (-15,891)	13,530 (17,697)	+1,380 (+1,805)	12,703 (16,616)
A7C-FEC-M-Ultimate Alternative	-14,192 (-18,563)	16,503 (21,586)	+2,310 (+3,021)	13,400 (17,527)

Source: CDMG and P&D Consultants (2003).

TABLE 4.2-5
TYPICAL CONSTRUCTION EQUIPMENT FOR THE INITIAL AND ULTIMATE CORRIDOR ALTERNATIVES
(11 x 17; page 1 of 2)

TABLE 4.2-5
TYPICAL CONSTRUCTION EQUIPMENT FOR THE CORRIDOR ALTERNATIVES
(11 x 17; page 2 of 2)

**TABLE 4.2-6
ESTIMATED CONSTRUCTION PERIODS FOR THE INITIAL AND ULTIMATE CORRIDOR ALTERNATIVES**

Initial and Ultimate Corridor Alternatives	Estimated Construction Period (in months)
FAR EAST CORRIDOR ALIGNMENT ALTERNATIVES	
FEC-Initial Alternative	39
FEC-Ultimate Alternative	42
FEC-TV-Initial Alternative	39
FEC-TV-Ultimate Alternative	42
FEC-CV-Initial Alternative	39
FEC-CV-Ultimate Alternative	42
FEC-AFV-Initial Alternative	39
FEC-AFV-Ultimate Alternative	42
FEC-OHV-Initial Alternative	30
FEC-OHV-Ultimate Alternative	30
FEC-APV-Initial Alternative	36
FEC-APV-Ultimate Alternative	30
FEC-W-Initial Alternative	39
FEC-W-Ultimate Alternative	42
FEC-M-Initial Alternative	39
FEC-M-Ultimate Alternative	42
CENTRAL CORRIDOR ALIGNMENT ALTERNATIVES	
CC-Initial Alternative	39
CC-Ultimate Alternative	42
CC-ALPV-Initial Alternative	36
CC-ALPV-Ultimate Alternative	30
CC-OHV-Initial Alternative	30
CC-OHV-Ultimate Alternative	30
ALIGNMENT 7 CORRIDOR ALIGNMENT ALTERNATIVES	
A7C-Initial Alternative	39
A7C-Ultimate Alternative	42
A7C-7SV-Initial Alternative	39
A7C-7SV-Ultimate Alternative	42
A7C-FECV-Initial Alternative	39
A7C-FECV-Ultimate Alternative	42
A7C-FECV-C-Initial Alternative	39
A7C-FECV-C-Ultimate Alternative	42
A7C-FECV-AF-Initial Alternative	39
A7C-FECV-AF-Ultimate Alternative	42
A7C-OHV-Initial Alternative	30
A7C-OHV-Ultimate Alternative	30
A7C-ALPV-Initial Alternative	30
A7C-ALPV-Ultimate Alternative	36
A7C-FEC-M-Initial Alternative	39
A7C-FEC-M-Ultimate Alternative	42

Source: TCA (2003).

TABLE 4.2-7
MAINLINE AND RAMP TOLL COLLECTION FACILITIES
FOR THE INITIAL AND ULTIMATE CORRIDOR ALTERNATIVES

Initial and Ultimate Corridor Alternatives	**MAINLINE TOLL FACILITY**	**RAMP TOLL FACILITIES**								
	North of Ortega Highway	Southbound on ramp at Ortega Highway	Northbound off ramp at Ortega Highway	Southbound on ramp at Avenida Pico	Northbound off ramp at Avenida Pico	Southbound on ramp at Avenida Vista Hermosa	Northbound off ramp at Avenida Vista Hermosa	At Crown Valley Parkway (1)	Southbound on ramp at C Street	Northbound off ramp at C Street
FAR EAST CORRIDOR ALIGNMENT ALTERNATIVES										
FEC-Initial Alternative	✓	✓	✓	✓	✓			✓		
FEC-Ultimate Alternative	✓	✓	✓	✓	✓			✓		
FEC-TV-Initial Alternative	✓	✓	✓			✓	✓	✓		
FEC-TV-Ultimate Alternative	✓	✓	✓			✓	✓	✓		
FEC-CV-Initial Alternative	✓	✓	✓					✓		
FEC-CV-Ultimate Alternative	✓	✓	✓					✓		
FEC-AFV-Initial Alternative	✓	✓	✓	✓	✓			✓		
FEC-AFV-Ultimate Alternative	✓	✓	✓	✓	✓			✓		
FEC-OHV-Initial Alternative	✓							✓		
FEC-OHV-Ultimate Alternative	✓							✓		
FEC-APV-Initial Alternative	✓	✓	✓					✓		
FEC-APV-Ultimate Alternative	✓	✓	✓					✓		
FEC-W-Initial Alternative	✓	✓	✓	✓	✓				✓	✓
FEC-W-Ultimate Alternative	✓	✓	✓	✓	✓				✓	✓
FEC-M-Initial Alternative	✓	✓	✓	✓	✓				✓	✓
FEC-M-Ultimate Alternative	✓	✓	✓	✓	✓				✓	✓
CENTRAL CORRIDOR ALIGNMENT ALTERNATIVES										
CC-Initial Alternative	✓	✓	✓			✓	✓	✓		
CC-Ultimate Alternative	✓	✓	✓			✓	✓	✓		
CC-ALPV-Initial Alternative	✓	✓	✓					✓		
CC-ALPV-Ultimate Alternative	✓	✓	✓					✓		
CC-OHV-Initial Alternative	✓							✓		

TABLE 4.2-7
MAINLINE AND RAMP TOLL COLLECTION FACILITIES
FOR THE INITIAL AND ULTIMATE CORRIDOR ALTERNATIVES

Initial and Ultimate Corridor Alternatives	MAINLINE TOLL FACILITY	RAMP TOLL FACILITIES								
	North of Ortega Highway	Southbound on ramp at Ortega Highway	Northbound off ramp at Ortega Highway	Southbound on ramp at Avenida Pico	Northbound off ramp at Avenida Pico	Southbound on ramp at Avenida Vista Hermosa	Northbound off ramp at Avenida Vista Hermosa	At Crown Valley Parkway (1)	Southbound on ramp at C Street	Northbound off ramp at C Street
CC-OHV-Ultimate Alternative	✓							✓		
ALIGNMENT 7 CORRIDOR ALIGNMENT ALTERNATIVES										
A7C-Initial Alternative	✓	✓	✓			✓	✓	✓		
A7C-Ultimate Alternative	✓	✓	✓			✓	✓	✓		
A7C-7SV-Initial Alternative	✓	✓	✓			✓	✓	✓		
A7C-7SV-Ultimate Alternative	✓	✓	✓			✓	✓	✓		
A7C-FECV-Initial Alternative	✓	✓	✓	✓	✓			✓		
A7C-FECV-Ultimate Alternative	✓	✓	✓	✓	✓			✓		
A7C-FECV-C-Initial Alternative	✓	✓	✓					✓		
A7C-FECV-C-Ultimate Alternative	✓	✓	✓					✓		
A7C-FECV-AF-Initial Alternative	✓	✓	✓	✓	✓			✓		
A7C-FECV-AF-Ultimate Alternative	✓	✓	✓	✓	✓			✓		
A7C-OHV-Initial Alternative	✓							✓		
A7C-OHV-Ultimate Alternative	✓							✓		
A7C-ALPV-Initial Alternative	✓	✓	✓					✓		
A7C-ALPV-Ultimate Alternative	✓	✓	✓					✓		
A7C-FEC-M-Initial Alternative	✓	✓	✓	✓	✓				✓	✓
A7C-FEC-M-Ultimate Alternative	✓	✓	✓	✓	✓				✓	✓

(1) The Crown Valley Parkway interchange with the corridor alternatives is a possible future project that would be constructed by others and is not part of the corridor alternatives. It that interchange is built, toll collection facilities would be provided on the ramps.

Source: CDMG and P&D Consultants (2003).

FIGURE 4.2-3
ALIGNMENT OF THE FAR EAST CORRIDOR-COMPLETE ALTERNATIVES
[Page 1 of 1; 8.5 x 11]

TABLE 4.2-8
CHARACTERISTICS OF THE FAR EAST CORRIDOR-COMPLETE-INITIAL AND ULTIMATE ALTERNATIVES

Segment	Geographic Extent	Length in km (mi)	Typical Corridor Cross Sections	Interchanges	Bridges and Other Crossings	Other Relevant Features
A	Oso Parkway southeast to Ortega Highway.	9.4 km (5.8 mi)	Initial: Four GP lanes. Could accommodate two future HOV lanes. Ultimate: Eight Lanes (six GP and two HOV).	Oso Parkway. Ortega Highway (connector road). Crown Valley Parkway (future interchange constructed by others; not a part of these alternatives).	Bridge over Cañada Gobernadora. Bridge over San Juan Creek at the mainline. Bridge over San Juan Creek at the Ortega Highway connector road.	Mainline toll plaza north of Ortega Highway. Ramp toll plazas on the southbound on ramp and northbound off ramp at Ortega Highway. Realignment and potential widening (to MPAH designation) of approximately 1.4 km (0.9 mi) of Ortega Highway. Approximately 1.8 km (1.1 mi) long new connector road from Ortega Highway to the FEC alignment.
B	From Ortega Highway to just south of Avenida Pico.	7.2 km (4.5 mi)	Initial: Four GP lanes. Could accommodate two future HOV lanes. Ultimate: Eight Lanes (six GP and two HOV).	Avenida Pico.	Bridge over Blind/Gabino Creek. Cristianitos/Ford Road undercrossing. Bridge over Cristianitos Creek.	
C	From just south of Avenida Pico to where the corridor crosses San Mateo Creek.	8.1 km (5.0 mi)	Initial: Four GP lanes. Could accommodate two future HOV lanes. Ultimate north of Cristianitos Road: Eight lanes (six GP and two HOV). Ultimate south of Cristianitos Road: Six lanes (four GP and two HOV).	Avenida Pico. Cristianitos Road (to and from the north only).	Bridge over San Mateo Creek at I-5. Widening of I-5 bridges over San Mateo Creek.	Ramp toll plazas on the southbound on ramp and the northbound off ramp at Avenida Pico.

TABLE 4.2-8
CHARACTERISTICS OF THE FAR EAST CORRIDOR-COMPLETE-INITIAL AND ULTIMATE ALTERNATIVES

Segment	Geographic Extent	Length in km (mi)	Typical Corridor Cross Sections	Interchanges	Bridges and Other Crossings	Other Relevant Features
D	From where the corridor crosses San Mateo Creek, southeast to I-5 and south on I-5 to the terminus south of Basilone Road.	3.1 km (1.9 mi) [1.2 km (0.7 mi) of corridor; 1.9 km (1.2 mi) of I-5 improvements]	Initial: Four GP lanes. Could accommodate two future HOV lanes. Ultimate: Six lanes (four GP and two HOV).	I-5 connector to and from the south only.	Bridge over San Onofre Creek at I-5. Widening of I-5 bridge over San Onofre Creek.	Reconstruction of the existing I-5/Basilone Road interchange. No direct connection to and from Basilone Road.

Note: Some interchanges are shown as occurring on two segments because they are at the terminal ends of the segments and therefore would be on the end of each segment.
Source: CDMG and P&D Consultants (2002).

FIGURE 4.2-4
TYPICAL CROSS SECTION FOR A SIX LANE MAJOR ARTERIAL
[8.5 X 11; Page 1 of 1]

FIGURE 4.2-5
TYPICAL CROSS SECTION FOR THE ORTEGA HIGHWAY AND A7C CONNECTOR ROADS
[Page 1 of 1; 8 ½ x 11;b/w]

TABLE 4.2-9
PROJECT COSTS

Alternative	Construction Cost (in millions)[1]	ROW Cost (in millions)[2]	Total Cost (in millions)
No Project	0	0	0
FEC-Initial Alternative	$796	$74	$870
FEC-Ultimate Alternative	$1,076	$86	$1,162
FEC-TV-Initial Alternative	$734	$433	$1,167
FEC-TV-Ultimate Alternative	$960	$453	$1,413
FEC-APV-Initial Alternative	$463	$52	$515
FEC-APV-Ultimate Alternative	$606	$61	$667
FEC-OHV-Initial Alternative	$204	$11	$215
FEC-OHV-Ultimate Alternative	$313	$17	$330
FEC-AFV-Initial Alternative	$775	$70	$845
FEC-AFV-Ultimate Alternative	$1,049	$86	$1,135
FEC-CV-Initial Alternative	$590	$79	$669
FEC-CV-Ultimate Alternative	$765	$95	$860
FEC-W-Initial Alternative	$638	$68	$706
FEC-W-Ultimate Alternative	$798	$72	$870
FEC-M-Initial Alternative	$697	$68	$763
FEC-M-Ultimate Alternative	$843	$69	$912
CC-Initial Alternative	$703	$421	$1,124
CC-Ultimate Alternative	$945	$437	$1,382
CC-ALPV-Initial Alternative	$457	$55	$512
CC-ALPV-Ultimate Alternative	$560	$68	$628
CC-OHV-Initial Alternative	$204	$29	$233
CC-OHV-Ultimate Alternative	$258	$32	$290
A7C-Initial Alternative	$1,127	$467	$1,594
A7C-Ultimate Alternative	$1,397	$474	$1,871
A7C-7SV-Initial Alternative	$1,377	$414	$1,791
A7C-7SV-Ultimate Alternative	$1,697	$442	$2,139
A7C-FECV-Initial Alternative	$1,451	$101	$1,552
A7C-FECV-Ultimate Alternative	$1,660	$144	$1,804
A7C-ALPV-Initial Alternative	$876	$86	$962
A7C-ALPV-Ultimate Alternative	$924	$96	$1,020
A7C-OHV-Initial Alternative	$332	$9	$341
A7C-OHV-Ultimate Alternative	$398	$12	$410
A7C-FECV-AF-Initial Alternative	$1,412	$97	$1,509
A7C-FECV-AF-Ultimate Alternative	$1,844	$141	$1,985
A7C-FECV-C-Initial Alternative	$1,224	$105	$1,329
A7C-FECV-C-Ultimate Alternative	$1,564	$148	$1,712
A7C-FEC-M-Initial Alternative	$645	$70	$715
A7C-FEC-M-Ultimate Alternative	$800	$73	$873
AIO Alternative	$351	$172	$543
AIP Alternative	$1,133	$1,009	$2,142
I-5 Alternative	$1,347	$1,077	$2,424

(1) CDMG (cost estimates, 2004).
(2) P&D Consultants (Right-of-Way Cost Estimates Technical Report, 2003).

FIGURE 4.2-6
ALIGNMENT OF THE FAR EAST CORRIDOR-TALEGA VARIATION ALTERNATIVES
(PAGE 1 OF 1; 8.5 X 11)

TABLE 4.2-10
CHARACTERISTICS OF THE FAR EAST CORRIDOR-TALEGA VARIATION-INITIAL AND ULTIMATE ALTERNATIVES

Segment	Geographic Extent	Length in km (mi)	Typical Corridor Cross Sections	Interchanges	Bridges and Other Crossings	Other Relevant Features
A	Oso Parkway to Ortega Highway.	9.4 km (5.8 mi)	Initial: Four GP lanes. Could accommodate two future HOV lanes. Ultimate: Eight Lanes (six GP and two HOV).	Oso Parkway. Ortega Highway (connector road). Crown Valley Parkway (future interchange constructed by others; not a part of these alternatives).	Bridge over Cañada Gobernadora. Bridge over San Juan Creek at the mainline. Bridge over San Juan Creek at the Ortega Highway connector road.	Mainline toll plaza north of Ortega Parkway. Ramp toll plazas on the southbound on ramp and northbound off ramp at Ortega Highway. Realignment and potential widening (to MPAH designation) of approximately 1.4 km (0.9 mi) of Ortega Highway. Approximately 1.8 km (1.1 mi) long new connector road from Ortega Highway to the FEC-TV alignment.
E	From Ortega Highway to 0.43 km (0.27 mi) south of Avenida La Pata.	8.2 km (5.1 mi)	Initial: Four GP lanes. Could accommodate two future HOV lanes. Ultimate: Eight Lanes (six GP and two HOV).	Avenida Vista Hermosa.	Avenida La Pata undercrossing. Via Sonrisa/Onda overcrossing.	Ramp toll plazas on the southbound on ramp and the northbound off ramp at Avenida Vista Hermosa.
F	From 0.43 (0.27 mi) km south of Avenida La Pata south to I-5, extending south on I-5 to Cristianitos Road.	8.0 km (5.0 mi) [3.4 km (2.1 mi) of corridor; 4.6 km (2.9 mi) of improvements on I-5]	Initial: Four GP lanes. Could accommodate two future HOV lanes. Ultimate: Eight lanes (six GP and two HOV) to Calle del Cerro and six lanes (four GP and two HOV) from Calle del Cerro to I-5.	Calle del Cerro (connection to Avenida Pico). I-5 connector (to and from the south only).	Camino Vera Cruz overcrossing. Calle Frontera overcrossing. Avenida San Luis Rey on I-5 overcrossing. Avenida Mendocino on I-5 overcrossing.	Reconstruction of the following interchanges on I-5: Avenida Pico, Avenida Palizada, Avenida Presidio, El Camino Real, Avenida Mendocino (northbound only; no structure) and Avenida Calafia (southbound only; no structure).

Note: Some interchanges are shown as occurring on two segments because they are at the terminal ends of the segments and therefore would be on the end of each segment.
Source: CDMG and P&D Consultants (2002).

FIGURE 4.2-7
ALIGNMENT OF THE FAR EAST CORRIDOR-CRISTIANITOS VARIATION ALTERNATIVES
(page 1 of 1; 8.5 x 11)

TABLE 4.2-11
CHARACTERISTICS OF THE FAR EAST CORRIDOR-CRISTIANITOS VARIATION-INITIAL AND ULTIMATE ALTERNATIVES

Segment	Geographic Extent	Length in km (mi)	Typical Corridor Cross Sections	Interchanges	Bridges and Other Crossings	Other Relevant Features
A	Oso Parkway southeast to Ortega Highway.	9.4 km (5.8 mi)	Initial: Four GP lanes. Could accommodate two future HOV lanes. Ultimate: Eight Lanes (six GP and two HOV).	Oso Parkway. Ortega Highway (connector road). Crown Valley Parkway (future interchange to be constructed by others; not a part of these alternatives).	Bridge over Cañada Gobernadora. Bridge over San Juan Creek at the mainline. Bridge over San Juan Creek the Ortega Highway connector road.	Mainline toll plaza north of Ortega Highway. Ramp toll plazas on the southbound on ramp and northbound off ramp at Ortega Highway. Realignment and potential widening (to MPAH designation) of approximately 1.4 km (0.9 mi) of Ortega Highway. Approximately 1.8 km (1.1 mi) long new connector road from Ortega Highway to the FEC-CV alignment.
B	From Ortega Highway to just south of Avenida Pico.	7.2 km (4.5 mi)	Initial: Four GP lanes. Could accommodate two future HOV lanes. Ultimate: Eight Lanes (six GP and two HOV).	Avenida Pico.	Bridge over Blind/Gabino Creek. Cristianitos/Ford Road undercrossing. Bridge over Cristianitos Creek.	
G	From just south of Avenida Pico to the terminus on Cristianitos Road at I-5.	7.3 km (4.5 mi)	Initial and Ultimate: Four Lane Collector Road	Intersection with Cristianitos Road.	Widening of I-5 bridges over San Mateo Creek.	Widening of existing Cristianitos Road from the Corridor terminus south to I-5 and reconstruction of the existing I-5/Cristianitos Road interchange.

Source: CDMG and P&D Consultants (2002).

FIGURE 4.2-8
TYPICAL CROSS SECTION FOR A COLLECTOR ROAD (SECONDARY ARTERIAL, FOUR LANES)
(page 1 of 1; 8.5 x 11)

FIGURE 4.2-9
ALIGNMENT OF THE FAR EAST CORRIDOR-AGRICULTURAL FIELDS VARIATION ALTERNATIVES
(page 1 of 1; 8.5 x 11)

TABLE 4.2-12
CHARACTERISTICS OF THE FAR EAST CORRIDOR-AGRICULTURAL FIELDS VARIATION-INITIAL AND ULTIMATE ALTERNATIVES

Segment	Geographic Extent	Length in km (mi)	Typical Corridor Cross Sections	Interchanges	Bridges and Other Crossings	Other Relevant Features
A	Oso Parkway to southeast to Ortega Highway.	9.4 km (5.8 mi)	Initial: Four GP lanes. Could accommodate two future HOV lanes. Ultimate: Eight lanes (six GP and two HOV).	Oso Parkway. Ortega Highway (connector road). Crown Valley Parkway (future interchange to be constructed by others; not a part of these alternatives).	Bridge over Cañada Gobernadora. Bridge over San Juan Creek at the mainline. Bridge over San Juan Creek at the Ortega Highway connector road.	Mainline toll plaza north of Ortega Highway. Ramp toll plazas on the southbound on ramp and northbound off ramp at Ortega Highway. Realignment and potential widening (to MPAH designation) of approximately 1.4 km (0.9 mi) of Ortega Highway. Approximately 1.8 km (1.1 mi) long new connector road from Ortega Highway to the FEC-AFV alignment.
B	From Ortega Highway to just south of Avenida Pico.	7.2 km (4.5 mi)	Initial: Four GP lanes. Could accommodate two future HOV lanes. Ultimate: Eight lanes (six GP and two HOV).	Avenida Pico.	Bridge over Blind/Gabino Creek. Bridge over Cristianitos Creek.	
H	From just south of Avenida Pico southeast to the intersection of the corridor with I-5.	8.1 km (5.0 mi)	Initial: Four GP lanes. Could accommodate two future HOV lanes. Ultimate north of Cristianitos Road: Eight lanes (six GP and two HOV). Ultimate south of Cristianitos Road: Six Lanes (four GP and two HOV).	Avenida Pico. Cristianitos Road.	Bridge over San Mateo Creek at I-5. Widening of I-5 bridges over San Mateo Creek.	Ramp toll plazas on the southbound on ramp and the northbound off ramp at Avenida Pico.

TABLE 4.2-12
CHARACTERISTICS OF THE FAR EAST CORRIDOR-AGRICULTURAL FIELDS VARIATION-INITIAL AND ULTIMATE ALTERNATIVES

Segment	Geographic Extent	Length in km (mi)	Typical Corridor Cross Sections	Interchanges	Bridges and Other Crossings	Other Relevant Features
D	From the intersection of the corridor with I-5 south on I-5 to the terminus south of Basilone Road.	3.1 km (1.9 mi) [1.2 km (0.7 mi) of corridor and 1.9 km (1.2 mi) of improvements on I-5]	Initial: Four GP lanes. Could accommodate two future HOV lanes. Ultimate: Six lanes (four GP and two HOV).	I-5 connector (to and from the south only.).	Bridge over San Onofre Creek at I-5. Widening of I-5 bridge over San Onofre Creek.	Reconstruction of the existing I-5/Basilone Road interchange. No direct connection to/from Basilone Road.

Source: CDMG and P&D Consultants (2002).

FIGURE 4.2-10
ALIGNMENT OF THE FAR EAST CORRIDOR-ORTEGA HIGHWAY VARIATION ALTERNATIVES
(page 1 of 1; 8.5 x 11)

TABLE 4.2-13
CHARACTERISTICS OF THE FAR EAST CORRIDOR-ORTEGA HIGHWAY VARIATION-INITIAL AND ULTIMATE ALTERNATIVES

Segment	Geographic Extent	Length in km (mi)	Typical Corridor Cross Sections	Interchanges	Bridges and Other Crossings	Other Relevant Features
A	Oso Parkway southeast to Ortega Highway.	9.4 km (5.8 mi)	Initial: Four GP lanes. Could accommodate two future HOV lanes. Ultimate: Eight lanes (six GP and two HOV).	Oso Parkway. Ortega Highway. Crown Valley Parkway (future interchange to be constructed by others; not a part of these alternatives).	Bridge over Cañada Gobernadora. Bridge over San Juan Creek.	Mainline toll plaza north of Ortega Highway. TSM improvements anticipated on Ortega Highway from the corridor to I-5.

Source: CDMG and P&D Consultants (2002).

FIGURE 4.2-11
ALIGNMENT OF THE FAR EAST CORRIDOR-AVENIDA PICO VARIATION ALTERNATIVES
(page 1 of 1; 8.5 x 11)

TABLE 4.2-14
CHARACTERISTICS OF THE FAR EAST CORRIDOR-AVENIDA PICO VARIATION-INITIAL AND ULTIMATE ALTERNATIVES

Segment	Geographic Extent	Length in km (mi)	Typical Corridor Cross Sections	Interchanges	Bridges and Other Crossings	Other Relevant Features
A	Oso Parkway southeast to Ortega Highway.	9.4 km (5.8 mi)	Initial: Four GP lanes. Could accommodate two future HOV lanes. Ultimate: Eight Lanes (six GP and two HOV).	Oso Parkway. Ortega Highway (connector road). Crown Valley Parkway (future interchange to be constructed by others; not a part of these alternatives).	Bridge over Cañada Gobernadora. Bridge over San Juan Creek at the mainline. Bridge over San Juan Creek at the Ortega Highway connector road.	Mainline toll plaza north of Ortega Highway. Ramp toll plazas on the southbound on ramp and northbound off ramp at Ortega Highway. Realignment and potential widening (to MPAH designation) of approximately 1.4 km (0.9 mi) of Ortega Highway. Approximately 1.8 km (1.1 mi) long new connector road from Ortega Highway to the FEC-APValignment.
B	From Ortega Highway to Avenida Pico.	7.3 km (4.5 mi)	Initial: Four GP lanes. Could accommodate two future HOV lanes. Ultimate: Eight Lanes (six GP and two HOV).		Bridge over Blind/Gabino Creek. Bridge over Cristianitos Creek.	TSM improvements anticipated on Avenida Pico from the corridor to I-5. Direct connection to Avenida Pico.

Source: CDMG and P&D Consultants (2002).

FIGURE 4.2-12
ALIGNMENT OF THE FAR EAST CORRIDOR-WEST ALTERNATIVES
[one page; 8.5 x 11]

TABLE 4.2-15
CHARACTERISTICS OF THE FAR EAST CORRIDOR-WEST-INITIAL AND ULTIMATE ALTERNATIVES

Segment	Geographic Extent	Length in km (mi)	Typical Corridor Cross Sections	Interchanges	Bridges and Other Crossings	Other Relevant Features
U	Oso Parkway southeast to Ortega Highway.	9.2 km (5.7 mi)	Initial: Four GP lanes. Could accommodate two future HOV lanes. Ultimate: Eight Lanes (six GP and two HOV).	Oso Parkway. New Ortega Highway C Street Crown Valley Parkway (future interchange constructed by others; not a part of these alternatives).	Bridge over Cañada Gobernadora. Bridge over San Juan Creek.	Mainline toll plaza north of Ortega Highway. Ramp toll plazas on the southbound on ramp and northbound off ramp at new Ortega Highway. Ramp toll plazas on the southbound on ramp and northbound off ramp at C Street
V	From Ortega Highway to just south of Avenida Pico.	6.8 km (4.2 mi)	Initial: Four GP lanes. Could accommodate two future HOV lanes. Ultimate: Eight Lanes (six GP and two HOV).	Avenida Pico.	Cristianitos Road undercrossing.	
C	From just south of Avenida Pico to where the corridor crosses the San Mateo Creek.	8.1 km (5.0 mi)	Initial: Four GP lanes. Could accommodate two future HOV lanes. Ultimate north of Cristianitos Road: Eight lanes (six GP and two HOV). Ultimate south of Cristianitos Road: Six lanes (four GP and two HOV).	Avenida Pico. Cristianitos Road (to and from the north only).	Bridge over San Mateo Creek at I-5. Widening of I-5 bridges over San Mateo Creek (ultimate only).	Ramp toll plazas on the southbound on ramp and the northbound off ramp at Avenida Pico.

TABLE 4.2-15
CHARACTERISTICS OF THE FAR EAST CORRIDOR-WEST-INITIAL AND ULTIMATE ALTERNATIVES

Segment	Geographic Extent	Length in km (mi)	Typical Corridor Cross Sections	Interchanges	Bridges and Other Crossings	Other Relevant Features
D	From where the corridor crosses San Mateo Creek, southeast to I-5 and south on I-5 to the terminus south of Basilone Road.	2.6 km (1.6 mi) [1.3 km (0.8 mi) of corridor; 1.3 km (0.8 mi) of I-5 improvements]	Initial: Four GP lanes. Could accommodate two future HOV lanes. Ultimate: Six lanes (four GP and two HOV).	I-5 connector to and from the south only.	Bridge over San Onofre Creek at I-5. Widening of I-5 bridge over San Onofre Creek.	Reconstruction of the existing I-5/Basilone Road interchange. No direct connection to and from Basilone Road.

Note: Some interchanges are shown as occurring on two segments because they are at the terminal ends of the segments and therefore would be on the end of each segment.
Source: CDMG and P&D Consultants (2003).

FIGURE 4.2-13

ALIGNMENT OF THE FAR EAST CORRIDOR-MODIFIED ALTERNATIVES

[one page; 8.5 x 11]

TABLE 4.2-16
CHARACTERISTICS OF THE FAR EAST CORRIDOR-MODIFIED-INITIAL AND ULTIMATE ALTERNATIVES

Segment	Geographic Extent	Length in km (mi)	Typical Corridor Cross Sections	Interchanges	Bridges and Other Crossings	Other Relevant Features
W	Oso Parkway southeast to Ortega Highway.	9.4 km (5.8 mi)	Initial: Four GP lanes. Could accommodate two future HOV lanes. Ultimate: Eight Lanes (six GP and two HOV).	Oso Parkway. New Ortega Highway Crown Valley Parkway (future interchange constructed by others; not a part of these alternatives). C Street	Bridge over Cañada Gobernadora. Bridge over San Juan Creek at the mainline. Bridge over San Juan Creek at the Ortega Highway connector road.	Mainline toll plaza north of Ortega Highway. Ramp toll plazas on the southbound on ramp and northbound off ramp at Ortega Highway. Ramp toll plazas on the southbound on ramp and northbound off ramp at C Street.
X	From Ortega Highway to just south of Avenida Pico.	7.2 km (4.5 mi)	Initial: Four GP lanes. Could accommodate two future HOV lanes. Ultimate: Eight Lanes (six GP and two HOV).	Avenida Pico.	Bridge over Cristianitos Creek and Cristianitos Road.	
C	From just south of Avenida Pico to where the corridor crosses the San Mateo Creek.	8.1 km (5.0 mi)	Initial: Four GP lanes. Could accommodate two future HOV lanes. Ultimate north of Cristianitos Road: Eight lanes (six GP and two HOV). Ultimate south of Cristianitos Road: Six lanes (four GP and two HOV).	Avenida Pico. Cristianitos Road (to and from the north only).	Bridge over San Mateo Creek at I-5. Widening of I-5 bridges over San Mateo Creek (ultimate only).	Ramp toll plazas on the southbound on ramp and the northbound off ramp at Avenida Pico.

TABLE 4.2-16
CHARACTERISTICS OF THE FAR EAST CORRIDOR-MODIFIED-INITIAL AND ULTIMATE ALTERNATIVES

Segment	Geographic Extent	Length in km (mi)	Typical Corridor Cross Sections	Interchanges	Bridges and Other Crossings	Other Relevant Features
D	From where the corridor crosses San Mateo Creek, southeast to I-5 and south on I-5 to the terminus south of Basilone Road.	2.6 km (1.6 mi) [1.3 km (0.8 mi) of corridor; 1.3 km (0.8 mi) of I-5 improvements].	Initial: Four GP lanes. Could accommodate two future HOV lanes. Ultimate: Six lanes (four GP and two HOV).	I-5 connector to and from the south only.	Bridge over San Onofre Creek at I-5. Widening of I-5 bridge over San Onofre Creek.	Reconstruction of the existing I-5/Basilone Road interchange. No direct connection to and from Basilone Road.

Note: Some interchanges are shown as occurring on two segments because they are at the terminal ends of the segments and therefore would be on the end of each segment.
Source: CDMG and P&D Consultants (2002).

FIGURE 4.2-14
ALIGNMENT OF THE CENTRAL CORRIDOR-COMPLETE ALTERNATIVES
[one page; 8.5 x 11]

TABLE 4.2-17
CHARACTERISTICS OF THE CENTRAL CORRIDOR-COMPLETE-INITIAL AND ULTIMATE ALTERNATIVES

Segment	Geographic Extent	Length in km (mi)	Typical Corridor Cross Sections	Interchanges	Bridges and Other Crossings	Other Relevant Features
I	Oso Parkway south to Ortega Highway.	7.7 km (4.8 mi)	Initial: Four GP lanes. Could accommodate two future HOV lanes. Ultimate: Eight Lanes (six GP and two HOV).	Oso Parkway. Ortega Highway. Crown Valley Parkway (future interchange to be constructed by others; not a part of these alternatives).	One bridge over San Juan Creek at the mainline. Two ramp bridges over San Juan Creek.	Mainline toll plaza north of Ortega Highway. Potential widening (to MPAH designation) of approximately 1.0 km (0.6 mi) of Ortega Highway.
J	From Ortega Highway south across the Landfill south to 0.43 km (0.27 mi) south of Avenida La Pata.	7.5 km (4.7 mi)	Initial: Four GP lanes. Could accommodate two future HOV lanes. Ultimate: Eight Lanes (six GP and two HOV).	Ortega Highway. Avenida Vista Hermosa.	Avenida La Pata and Via Sonrisa/Onda overcrossings.	Ramp toll plazas on the southbound on ramp and the northbound off ramp at Ortega Highway. Ramp toll plazas on the southbound on ramp and north bound off ramp at Avenida Vista Hermosa. Crosses Prima Deshecha Landfill.
K	From 0.43 km (0.27 mi) km south of Avenida La Pata south to I-5 and south on I-5 to Cristianitos Road.	8.0 km (5.0 mi) [3.4 km (2.1 mi) of corridor; 4.6 km (2.9 mi) of improvements on I-5]	Initial: Four GP lanes. Could accommodate two future HOV lanes. Ultimate: Eight Lanes (six GP and two HOV) to Calle del Cerro and six lanes (four GP and two HOV) from Calle del Cerro to I-5.	Calle del Cerro (Avenida Pico). I-5 connector (to and from the south only).	Camino Vera Cruz overcrossing. Calle Frontera overcrossing.	Reconstruction of the following interchanges with I-5: Avenida Pico, Avenida Palizada, Avenida Presidio, El Camino Real, Avenida Mendocino (northbound only; no structure) and Avenida Calafia (south bound only; no structure).

TABLE 4.2-17
CHARACTERISTICS OF THE CENTRAL CORRIDOR-COMPLETE-INITIAL AND ULTIMATE ALTERNATIVES

Segment	Geographic Extent	Length in km (mi)	Typical Corridor Cross Sections	Interchanges	Bridges and Other Crossings	Other Relevant Features
					Avenida San Luis Rey on I-5 overcrossing. Avenida Mendocino on I-5 overcrossing.	

Note: Some interchanges are shown as occurring on two segments because they are at the terminal ends of the segments and therefore would be on the end of each segment.
Source: CDMG and P&D Consultants (2002).

FIGURE 4.2-15
ALIGNMENT OF THE CENTRAL-AVENIDA LA PATA VARIATION ALTERNATIVES
(page 1 of 1; 8.5 x 11)

FIGURE 4.2-16
TYPICAL CROSS SECTION FOR A FOUR LANE PRIMARY ARTERIAL
[8.5 x 11; one page]

TABLE 4.2-18
CHARACTERISTICS OF THE CENTRAL CORRIDOR-AVENIDA LA PATA VARIATION-INITIAL AND ULTIMATE ALTERNATIVES

Segment	Geographic Extent	Length in km (mi)	Typical Corridor Cross Sections	Interchanges	Bridges and Other Crossings	Other Relevant Features
I	Oso Parkway south to Ortega Highway.	7.7 km (4.8 mi)	Initial: Four GP lanes. Could accommodate two future HOV lanes. Ultimate: Eight Lanes (six GP and two HOV).	Oso Parkway. Ortega Highway. Crown Valley Parkway (future interchange to be constructed by others; not a part of these alternatives).	One bridge over San Juan Creek at the mainline. Two ramp bridges over San Juan Creek at the Ortega Highway connector road.	Mainline toll plaza north of Ortega Highway. Potential widening (to MPAH designation) of approximately 1.0 km (0.6 mi) of Ortega Highway.
J	From Ortega Highway south across the Prima Deshecha Landfill south to Avenida Vista Hermosa.	6.7 km (4.2 mi)	Initial: Four GP lanes. Could accommodate two future HOV lanes. Ultimate: Eight Lanes (six GP and two HOV).	Ortega Highway. Avenida Vista Hermosa.		Ramp toll plazas on the southbound on ramp and the northbound off ramp at Ortega Highway. TSM improvements anticipated on Avenida Vista Hermosa from the corridor to Avenida La Pata; on Avenida La Pata from Avenida Vista Hermosa to Avendia Pico and on Avenida Pico from Avenida La Pata to I-5. Crosses Prima Deshecha Landfill.

Note: Some interchanges are shown as occurring on two segments because they are at the terminal ends of the segments and, therefore, would be on the end of each segment.
Source: CDMG and P&D Consultants (2002).

FIGURE 4.2-17
ALIGNMENT OF THE CENTRAL-ORTEGA HIGHWAY VARIATION ALTERNATIVES
(page 1 of 1; 8.5 x 11)

TABLE 4.2-19
CHARACTERISTICS OF THE CENTRAL CORRIDOR-ORTEGA HIGHWAY VARIATION-INITIAL AND ULTIMATE ALTERNATIVES

Segment	Geographic Extent	Length in km (mi)	Typical Corridor Cross Sections	Interchanges	Bridges and Other Crossings	Other Relevant Features
I	Oso Parkway south to Ortega Highway.	7.7 km (4.8 mi)	Initial: Four GP lanes. Could accommodate two future HOV lanes. Ultimate: Eight Lanes (six GP and two HOV).	Oso Parkway. Ortega Highway. Crown Valley Parkway (future interchange to be constructed by others; not a part of these alternatives).	One bridge over San Juan Creek at the mainline. Two ramp bridges over San Juan Creek at the Ortega Highway connector road.	Mainline toll plaza north of Ortega Highway. TSM improvements anticipated on Ortega Highway from the corridor to I-5.

Source: CDMG and P&D Consultants (2002).

FIGURE 4.2-18
ALIGNMENT OF THE ALIGNMENT 7 CORRIDOR COMPLETE ALTERNATIVES
(page 1 of 1; 8.5 x 11)

TABLE 4.2-20
CHARACTERISTICS OF THE ALIGNMENT 7 CORRIDOR-COMPLETE-INITIAL AND ULTIMATE ALTERNATIVES

Segment	Geographic Extent	Length in km (mi)	Typical Corridor Cross Sections	Interchanges	Bridges and Other Crossings	Other Relevant Features
L	Oso Parkway south to Ortega Highway.	7.4 km (4.6 mi)	Initial: Four GP lanes. Could accommodate two future HOV lanes. Ultimate: Eight lanes (six GP and two HOV).	Oso Parkway. Ortega Highway (connector road). Crown Valley Parkway (future interchange to be constructed by others; not a part of these alternatives).	One bridge over San Juan Creek at the mainline. Bridge over Canada Chiquita at East-West Connector Road.	Mainline toll plaza north of Ortega Highway. Approximately 2.2 km (1.4 mi) long new connector road from Antonio Parkway to the A7C alignment. Ramp toll plazas on the southbound on ramp and the northbound off ramp at Ortega Highway.
M	From Ortega Highway south to 0.4 km (0.3 mi) south of Avenida La Pata.	7.7 km (4.8 mi)	Initial: Four GP lanes. Could accommodate two future HOV lanes. Ultimate: Eight lanes (six GP and two HOV).	Ortega Highway. Avenida Vista Hermosa.	Avenida La Pata overcrossing. Via Sonrisa/Onda overcrossing.	Ramp toll plazas on the southbound on ramp and the northbound off ramp at Avenida Vista Hermosa.
N	From 0.4 km (0.3 mi) south of Avenida La Pata south to I-5, and south on I-5 to Cristianitos Road.	8.0 km (5.0 mi) [3.4 km (2.1 mi) of corridor; 4.6 km (2.9 mi) of improvements on I-5).	Initial: Four GP lanes. Could accommodate two future HOV lanes. Ultimate: Eight lanes (six GP and two HOV) to Calle del Cerro and six lanes (four GP and two HOV) from Calle del Cerro to I-5.	Calle del Cerro (Avenida Pico connection). I-5 connector (to and from the south only).	Camino Vera Cruz undercrossing. Calle Frontera undercrossing. Avenida San Luis Rey on I-5 overcrossing. Avenida Mendocino on I-5 overcrossing.	Reconstruction of the following interchanges on I-5: Avenida Pico, Avenida Palizada, Avenida Presidio, El Camino Real, Avenida Mendocino (northbound only; no structure) and Avenida Calafia (southbound only; no structure).

Note: Some interchanges are shown as occurring on two segments because they are at the terminal ends of the segments and, therefore, would be on the end of each segment.
Source: CDMG and P&D Consultants (2002).

FIGURE 4.2-19
ALIGNMENT OF THE ALIGNMENT 7 CORRIDOR-7 SWING VARIATION ALTERNATIVES
[page 1 of 1; 8.5 x 11]

TABLE 4.2-21
CHARACTERISTICS OF THE ALIGNMENT 7 CORRIDOR-7 SWING VARIATION-INITIAL AND ULTIMATE ALTERNATIVES

Segment	Geographic Extent	Length in km (mi)	Typical Corridor Cross Sections	Interchanges	Bridges and Other Crossings	Other Relevant Features
L	Oso Parkway south to Ortega Highway.	7.4 km (4.6 mi)	Initial: Four GP lanes. Could accommodate two future HOV lanes. Ultimate: Eight Lanes (six GP and two HOV).	Oso Parkway. Ortega Highway (connector road). Crown Valley Parkway (future interchange to be constructed by others; not a part of these alternatives).	One bridge over San Juan Creek at the mainline. Bridge over Canada Chiquita at the East-West Connector Road.	Mainline toll plaza north of Ortega Highway. Approximately 2.2 km (1.4 mi) long new connector from Antonio Parkway to the A7C alignment. Ramp toll plazas on the southbound on ramp and the northbound off ramp at Ortega Highway.
O	From Ortega Highway south to 0.43 km (0.27 mi) south of Avenida La Pata.	7.2 km (4.5 mi)	Initial: Four GP lanes. Could accommodate two future HOV lanes. Ultimate: Eight Lanes (six GP and two HOV).	Ortega Highway. Avenida Vista Hermosa.	Avenida La Pata and Via Sonrisa/Onda overcrossings.	Ramp toll plazas on the southbound on ramp and the northbound off ramp at Avenida Vista Hermosa. Crosses Prima Deshecha Landfill.
P	From 0.43 (0.27 mi) km south of Avenida La Pata south to I-5 and south on I-5 to Cristianitos Road.	8.0 km (5.0 mi) (3.4 km (2.1 mi) of corridor; 4.6 km (2.9 mi) of improvements on I-5).	Initial: Four GP lanes. Could accommodate two future HOV lanes. Ultimate: Eight Lanes (six GP and two HOV) to Calle del Cerro and six lanes (four GP and two HOV) from Calle del Cerro to I-5.	Calle del Cerro (Avenida Pico connection). I-5 connector (to and from the south only).	Camino Vera Cruz overcrossing. Calle Frontera overcrossing. Avenida San Luis Rey on I-5 overcrossing. Avenida Mendocino on I-5 overcrossing.	Reconstruction of the following interchanges on I-5: Avenida Pico, Avenida Palizada, Avenida Presidio, El Camino Real, Avenida Mendocino (northbound only; no structure) and Avenida Calafia (southbound only; no structure).

Note: Some interchanges are shown as occurring on two segments because they are at the terminal ends of the segments and, therefore, would be on the end of each segment.
Source: CDMG and P&D Consultants (2002).

FIGURE 4.2-20
ALIGNMENT OF THE ALIGNMENT 7 CORRIDOR-FAR EAST CROSSOVER VARIATION ALTERNATIVES
[page 1 of 1; 8.5 x 11]

TABLE 4.2-22
CHARACTERISTICS OF THE ALIGNMENT 7 CORRIDOR-FAR EAST CROSSOVER VARIATION-INITIAL AND ULTIMATE ALTERNATIVES

Segment	Geographic Extent	Length in km (mi)	Typical Corridor Cross Sections	Interchanges	Bridges and Other Crossings	Other Relevant Features
L	Oso Parkway south to Ortega Highway.	7.4 km (4.6 mi)	Initial: Four GP lanes. Could accommodate two future HOV lanes. Ultimate: Eight lanes (six GP and two HOV).	Oso Parkway. Ortega Highway (connector road). Crown Valley Parkway (future interchange to be constructed by others; not a part of these alternatives).	One bridge over San Juan Creek at the mainline. Bridge over Canada Chiquita at the East-West Connector Road.	Mainline toll plaza north of Ortega Highway. Approximately 2.2 km (1.4 mi) long new connector from Antonio Parkway to the A7C alignment. Ramp toll plazas on the southbound on ramp and the northbound off ramp at Ortega Highway.
Q	From Ortega Highway south to just south of Avenida Pico.	7.9 km (4.9 mi)	Initial: Four GP lanes. Could accommodate two future HOV lanes. Ultimate: Eight lanes (six GP and two HOV).	Ortega Highway. Avenida Pico.		Crosses Prima Deshecha Landfill.
R	From just south of Avenida Pico to where the corridor crosses San Mateo Creek.	8.1 km (5.0 mi)	Initial: Four GP lanes. Could accommodate two future HOV lanes. Ultimate: Eight lanes (six GP and two HOV) south to Cristianitos Road and six lanes (four GP and two HOV) south of Cristianitos Road.	Avenida Pico. Cristianitos Road (to and from the north only).	Bridge over San Mateo Creek at I-5. Widening of I-5 bridges over San Mateo Creek.	Ramp toll plazas on the southbound on ramp and the northbound off ramp at Avenida Pico.
D	From where the corridor crosses San Mateo Creek, southeast to I-5 and south on I-5 to the terminus south of Basilone Road.	3.1 km (1.9 mi) (1.2 km (0.7 mi) of corridor; 1.9 km (1.2 mi) of improvements to I-5).	Initial: Four GP lanes. Could accommodate two future HOV lanes. Ultimate: Six lanes (four GP and two HOV).	I-5 connector (to and from the south only).	Bridge over San Onofre Creek at I-5. Widening of I-5 bridge over San Onofre Creek.	Reconstruction of the existing I-5/Basilone Road interchange. No direct connection to/from Basilone Road.

Note: Some interchanges are shown as occurring on two segments because they are at the terminal ends of the segments and, therefore, would be on the end of each segment.
Source: CDMG and P&D Consultants (2002).

FIGURE 4.2-21
ALIGNMENT OF THE ALIGNMENT 7 CORRIDOR-FAR EAST CROSSOVER (CRISTIANITOS) VARIATION ALTERNATIVES
[page 1 of 1; 8.5 x 11]

TABLE 4.2-23
CHARACTERISTICS OF THE ALIGNMENT 7 CORRIDOR-FAR EAST CROSSOVER (CRISTIANITOS) VARIATION-INITIAL AND ULTIMATE ALTERNATIVES

Segment	Geographic Extent	Length in km (mi)	Typical Corridor Cross Sections	Interchanges	Bridges and Other Crossings	Other Relevant Features
L	Oso south to Ortega Highway.	7.4 km (4.6 mi)	Initial: Four GP lanes. Could accommodate two future HOV lanes. Ultimate: Eight lanes (six GP and two HOV).	Oso Parkway. Ortega Highway (connector road). Crown Valley Parkway (future interchange to be constructed by others; not a part of these alternatives).	One bridge over San Juan Creek at the mainline. Bridge over Canada Chiquita at the East-West Connector Road.	Mainline toll plaza north of Ortega Highway. Approximately 2.2 km (1.4 mi) long new connector from Antonio Parkway to the A7C alignment. Ramp toll plazas on the southbound on ramp and the northbound off ramp at Ortega Highway.
Q	From Ortega Highway south to just south of Avenida Pico.	7.9 km (4.9 mi)	Initial: Four GP lanes. Could accommodate two future HOV lanes. Ultimate: Eight lanes (six GP and two HOV).	Ortega Highway. Avenida Pico.		Crosses Prima Deshecha Landfill.
S	From just south of Avenida Pico to the corridor terminus on Cristianitos Road at I-5.	7.4 km (4.6 mi)	Initial and Ultimate: Four Lane Collector Road.	Intersection with Cristianitos Road.		Widening of existing Cristianitos Road from the Corridor terminus south to I-5 (approximately 4.0 km (1.5 mi) and reconstruction of the existing I-5/Cristianitos interchange.

Note: Some interchanges are shown as occurring on two segments because they are at the terminal ends of the segments and, therefore, would be on the end of each segment.
Source: CDMG and P&D Consultants (2002).

FIGURE 4.2-22
ALIGNMENT OF THE ALIGNMENT 7 CORRIDOR-FAR EAST CROSSOVER (AGRICULTURAL FIELDS) VARIATION ALTERNATIVES
[page 1 of 1; 8.5 x 11]

TABLE 4.2-24
CHARACTERISTICS OF THE ALIGNMENT 7 CORRIDOR-FAR EAST CROSSOVER (AGRICULTURAL FIELDS)VARIATION-INITIAL AND ULTIMATE ALTERNATIVES

Segment	Geographic Extent	Length in km (mi)	Typical Corridor Cross Sections	Interchanges	Bridges and Other Crossings	Other Relevant Features
L	Oso Parkway south to Ortega Highway.	7.4 km (4.6 mi)	Initial: Four GP lanes. Could accommodate two future HOV lanes. Ultimate: Eight lanes (six GP and two HOV).	Oso Parkway. Ortega Highway (connector road). Crown Valley Parkway (future interchange to be constructed by others; not a part of these alternatives).	One bridge over San Juan Creek at the mainline. Bridge over Canada Chiquita at the East-West Connector Road.	Mainline toll plaza north of Ortega Highway. Approximately 2.2 km (1.4 mi) long new connector from Antonio Parkway to the A7C alignment. Ramp toll plazas on the southbound on ramp and the northbound off ramp at Ortega Highway.
Q	From Ortega Highway south to just south of Avenida Pico.	7.9 km (4.9 mi)	Initial: Four GP lanes. Could accommodate two future HOV lanes. Ultimate: Eight lanes (six GP and two HOV).	Ortega Highway. Avenida Pico.		Crosses Prima Deshecha Landfill.
T	From just south of Avenida Pico southeast to the intersection of the corridor with I-5.	8.3 km (5.2mi)	Initial: Four GP lanes. Could accommodate two future HOV lanes. Ultimate north of Cristianitos Road: Eight lanes (six GP and two HOV). Ultimate south of Cristianitos Road: Six lanes (four GP and two HOV).	Avenida Pico. Cristianitos Road.	Bridge over San Mateo Creek at I-5. Widening of I-5 bridges over San Mateo Creek.	Ramp toll plazas on the southbound on ramp and the northbound off ramp at Avenida Pico.

TABLE 4.2-24
CHARACTERISTICS OF THE ALIGNMENT 7 CORRIDOR-FAR EAST CROSSOVER (AGRICULTURAL FIELDS)VARIATION-INITIAL AND ULTIMATE ALTERNATIVES

Segment	Geographic Extent	Length in km (mi)	Typical Corridor Cross Sections	Interchanges	Bridges and Other Crossings	Other Relevant Features
D	From the intersection of the corridor with I-5 south on I-5 to the terminus south of Basilone Road.	3.1 km (1.9 mi) [1.2 km (0.7 mi) of corridor; 1.9 km (1.2 mi) of improvements on I-5).	Initial: Four GP lanes. Could accommodate two future HOV lanes. Ultimate: Six Lanes (four GP and two HOV).	I-5 connector (to and from the south only).	Bridge over San Onofre Creek at I-5. Widening of I-5 bridge over San Onofre Creek.	Reconstruction of the existing I-5/Basilone Road interchange. No direct connection to Basilone Road.

Note: Some interchanges are shown as occurring on two segments because they are at the terminal ends of the segments and, therefore, would be on the end of each segment.
Source: CDMG and P&D Consultants (2002).

FIGURE 4.2-23
ALIGNMENT OF THE ALIGNMENT 7 CORRIDOR-ORTEGA HIGHWAY VARIATION ALTERNATIVES
[page 1 of 1; 8.5 x 11]

TABLE 4.2-25
CHARACTERISTICS OF THE ALIGNMENT 7 CORRIDOR-ORTEGA HIGHWAY VARIATION-INITIAL AND ULTIMATE ALTERNATIVES

Segment	Geographic Extent	Length in km (mi)	Typical Corridor Cross Sections	Interchanges	Bridges and Other Crossings	Other Relevant Features
L	Oso Parkway south to Ortega Highway.	7.4 km (4.6 mi)	Initial: Four GP lanes. Could accommodate two future HOV lanes. Ultimate: Eight Lanes (six GP and two HOV).	Oso Parkway. Ortega Highway. Crown Valley Parkway (future interchange to be constructed by others; not a part of these alternatives).	One bridge over San Juan Creek at the mainline. Two ramp bridges over San Juan Creek.	Mainline toll plaza north of Ortega Highway. TSM improvements anticipated on Ortega Highway from the corridor to I-5.

Source: CDMG and P&D Consultants (2002).

FIGURE 4.2-24
ALIGNMENT OF THE ALIGNMENT 7 CORRIDOR-AVENIDA LA PATA VARIATION ALTERNATIVES
[page 1 of 1; 8.5 x 11]

TABLE 4.2-26
CHARACTERISTICS OF THE ALIGNMENT 7 CORRIDOR-AVENIDA LA PATA VARIATION-INITIAL AND ULTIMATE ALTERNATIVES

Segment	Geographic Extent	Length in km (mi)	Typical Corridor Cross Sections	Interchanges	Bridges and Other Crossings	Other Relevant Features
L	Oso Parkway south to Ortega Highway.	7.4 km (4.6 mi)	Initial: Four GP lanes. Could accommodate two future HOV lanes. Ultimate: Eight Lanes (six GP and two HOV).	Oso Parkway. Ortega Highway (connector road). Crown Valley Parkway (future interchange to be constructed by others; not a part of these alternatives).	One bridge over San Juan Creek at the mainline. Bridge over Canada Chiquita at the East-West Connector Road.	Mainline toll plaza north of Ortega Highway. Approximately 2.2 km (1.4 mi) long new connector from Antonio Parkway to the A7C alignment. Ramp toll plazas on the southbound on ramp and the northbound off ramp at Ortega Highway.
M	From Ortega Highway south to Avenida Vista Hermosa.	6.5 km (4.0 mi)	Initial: Four GP lanes. Could accommodate two future HOV lanes. Ultimate: Eight Lanes (six GP and two HOV).	Ortega Highway. Avenida Vista Hermosa.		TSM improvements anticipated on Avenida Vista Hermosa from the Corridor to Avenida La Pata, on Avenida La Pata from Avenida Vista Hermosa to Avenida Pico and on Avenida Pico from Avenida La Pata to I-5.

Note: Some interchanges are shown as occurring on two segments because they are at the terminal ends of the segments and, therefore, would be on the end of each segment.
Source: CDMG and P&D Consultants (2002).

FIGURE 4.2-25
ALIGNMENT OF THE ALIGNMENT 7 CORRIDOR-FAR EAST CROSSOVER-MODIFIED ALTERNATIVES
[one page; 8.5/11]

TABLE 4.2-27
CHARACTERISTICS OF THE ALIGNMENT 7 CORRIDOR-FAR EAST CROSSOVER-MODIFIED-INITIAL AND ULTIMATE ALTERNATIVES

Segment	Geographic Extent	Length in km (mi)	Typical Corridor Cross Sections	Interchanges	Bridges and Other Crossings	Other Relevant Features
Y	Oso Parkway south to Ortega Highway.	8.4 km (5.2 mi)	Initial: Four GP lanes. Could accommodate two future HOV lanes. Ultimate: Eight lanes (six GP and two HOV).	Oso Parkway. New Ortega Highway. C Street. Crown Valley Parkway (future interchange to be constructed by others; not a part of these alternatives).	Bridge over San Juan Creek at the mainline. Ortega Highway undercrossing.	Mainline toll plaza north of Ortega Highway. Ramp toll plazas on the southbound on ramp and the northbound off ramp at New Ortega Highway (connector). Ramp toll plazas on the southbound on ramp and the northbound off ramp at C Street.
Z	From Ortega Highway south to just south of Avenida Pico.	7.8 km (4.8 mi)	Initial: Four GP lanes. Could accommodate two future HOV lanes. Ultimate: Eight lanes (six GP and two HOV).	Avenida Pico.	Quarry Access Road undercrossing.	
C	From just south of Avenida Pico to where the corridor crosses San Mateo Creek.	8.1 km (5.0 mi)	Initial: Four GP lanes. Could accommodate two future HOV lanes. Ultimate: Eight lanes (six GP and two HOV) south to Cristianitos Road and six lanes (four GP and two HOV) south of Cristianitos Road.	Avenida Pico. Cristianitos Road (to and from the north only).	Bridge over San Mateo Creek at I-5. Widening of I-5 bridges over San Mateo Creek (ultimate only).	Ramp toll plazas on the southbound on ramp and the northbound off ramp at Avenida Pico.

TABLE 4.2-27
CHARACTERISTICS OF THE ALIGNMENT 7 CORRIDOR-FAR EAST CROSSOVER-MODIFIED-INITIAL AND ULTIMATE ALTERNATIVES

Segment	Geographic Extent	Length in km (mi)	Typical Corridor Cross Sections	Interchanges	Bridges and Other Crossings	Other Relevant Features
D	From where the corridor crosses San Mateo Creek, southeast to I-5 and south on I-5 to the terminus south of Basilone Road.	2.6 km (1.6 mi) [1.3 km (0.8 mi) of corridor; 1.3 km (0.8 mi) of improvements to I-5].	Initial: Four GP lanes. Could accommodate two future HOV lanes. Ultimate: Six lanes (four GP and two HOV).	I-5 connector (to and from the south only).	Bridge over San Onofre Creek at I-5. Widening of I-5 bridge over San Onofre Creek.	Reconstruction of the existing I-5/Basilone Road interchange. No direct connection to/from Basilone Road.

Source: CDMG and P&D Consultants (2003).

FIGURE 4.3-1
ARTERIAL IMPROVEMENTS ONLY ALTERNATIVE
[page 1 of 1; 8.5 x 11]

FIGURE 4.3-2
TYPICAL CROSS SECTION FOR ANTONIO PARKWAY/LA PATA AVENUE UNDER THE AIO AND AIP ALTERNATIVES
[FROM CDMG IN JUNE]

TABLE 4.3-1
ESTIMATED MAXIMUM DAILY CONSTRUCTION EQUIPMENT AND WORKERS FOR THE AIO, AIP AND I-5 ALTERNATIVES

Equipment Description	AIO Alternative	AIP Alternative	I-5 Alternative
GRADING/DRAINAGE			
15 cubic meter self propelled scraper (D)	20	25	5
Self propelled Sheepsfoot compactor (D)	10	20	10
D6 dozer (D)	6	16	10
D8 dozer (D)	15	16	10
3 cubic meter rubber tired front loader (D)	15	30	18
Heavy duty fork lift (D)	2	6	4
4,000 gallon water truck (D)	8	20	12
3 cubic meter trackhoe excavator (D)	6	16	12
1/2 cubic meter rubber tired backhoe (D)	6	15	12
Motor graders (D)	10	25	15
1/2 ton pick-up truck (G)	44	104	75
3/4 ton pick-up truck (G)	10	25	15
1 ton stake bed truck (G)	8	20	20
3/4 ton mechanic truck (G)	4	10	7
Fuel/lube tandem truck (d)	4	10	7
15 cubic meter belly dump trucks (D)	40	80	60
8 cubic meter tandem trucks (D)	20	60	30
BRIDGE			
100 ton self propelled track crane (D)	2	6	8
60 ton truck crane (D)	2	8	10
45 ton rubber tire mobile crane (D)	2	8	10
25 ton rubber tire mobile crane (D)	2	8	10
Pile driving leads and hammer (D)	1	3	3
Heavy duty forklift (D)	2	6	10
Concrete pump truck (D)	2	4	5
Low boy tractor trailers (D)	2	4	4
Concrete trucks (D)	10	20	30
PAVING			
Concrete trucks (D)	--	20	20
Concrete paver (D)		1	4
Concrete saw - tire mounted (6 hp) (G)	2	6	5
Concrete pavement breaker (D)	2	5	5
Asphalt paving machine (D)	2	4	2
Steel wheel tandem roller (D)	2	4	2
Steel wheel vibrator roller (D)	2	4	2
Rubber tired roller (D)	2	4	2
15 cubic meter asphalt belly dump trucks (D)	25	40	25
BRIDGE AND ROAD DEMOLITION			
Air powered jack hammer and air compressor	2	5	5
3 cubic meter trackhoe excavator with claw attachment (D)	2	4	6
2 cubic meter rubber tired front loader (D)	--	--	4
Handheld concrete saws (G)	2	6	5
Tandem dump trucks (D)	10	20	25
DEMOLITION			
3 cubic meter trackhoe excavator with claw attachment (D)	--	--	16
2 cubic meter rubber tired front loader (D)	--	--	8
Handheld concrete saws (G)	--	--	24
1/2 ton pick-ups (G)	--	--	16
1 ton stake trucks (G)	--	--	16
Tandem dump trucks (D)	--	--	64
45 ton mobile crane (D)	--	--	8
MISCELLANEOUS			
1R 175 air compressors (G)	10	20	20

TABLE 4.3-1
ESTIMATED MAXIMUM DAILY CONSTRUCTION EQUIPMENT AND WORKERS FOR THE AIO, AIP AND I-5 ALTERNATIVES

10 HP generators (G)	10	20	30
Hand operated vibraplate compactors (G)	10	20	25
Self propelled trench compactors (G)	5	10	10
Trencher - 150 mm width (G)	1	3	3
Concrete saw - hand held (2 hp) (G)	5	5	10
1/2 ton traffic control truck (G)	2	8	8
Stake bed traffic control truck (G)	1	4	4
Tandem traffic control truck with attenuator (D)	1	4	4
Street sweeper (G)	2	5	6
Maximum Daily Workers	417	976	937

D: diesel
G: gas
Source: TCA (2002).

FIGURE 4.3-3
ARTERIAL IMPROVEMENTS PLUS I-5 ALTERNATIVE
[page 1 of 1; 8.5 x 11]

FIGURE 4.3-4
TYPICAL CROSS SECTION ON I-5 UNDER THE AIP ALTERNATIVE
[8.5 x 11; b/w]

TABLE 4.3-2
BRIDGES, STRUCTURES AND INTERCHANGES ON I-5 THAT WOULD BE RECONSTRUCTED UNDER THE AIP AND I-5 ALTERNATIVES

Avenida San Luis Rey overcrossing
Avenida Mendocino overcrossing
El Camino Real undercrossing (widen)
Avenida Presidio undercrossing (widen)
Avenida Palizada undercrossing (widen)
Avenida Pico Undercrossing
Avenida Vista Hermosa overcrossing
Avenida Vaquero undercrossing
Camino de Estrella overcrossing
Via California overcrossing
Route 5/Route 1 separation
Camino Las Ramblas ramp undercrossing
Camino Las Ramblas ramp overcrossing
Camino Capistrano on ramp undercrossing
San Juan Creek Road undercrossing
San Juan Creek bridge
Route 74/I-5 Separation
El Horno Creek Culvert
El Horno Street undercrossing
Junipero Serra Road undercrossing
Trabuco Creek bridge
Southbound SR 73/I-5 connector
Avery Parkway undercrossing
Crown Valley Parkway overcrossing
Oso Creek bridge
Golf cart undercrossing/culvert
Prima Deshecha Cañada culvert
El Toro overhead undercrossing
La Paz Road undercrossing
Alicia Parkway overcrossing
Aliso Creek bridge
Los Alisos Boulevard overcrossing
El Toro Road undercrossing (I-5 only)
Lake Forest overcrossing (I-5 only)

Source: CDMG (2002).

FIGURE 4.4-1
I-5 ALTERNATIVE
[page 1 of 1; 11 x 17]

FIGURE 4.4-2
TYPICAL CROSS SECTION ON I-5 UNDER THE I-5 ALTERNATIVE
[CDMG IN JUNE]

TABLE 4.5-1
NO ACTION ALTERNATIVES

MPAH (1), RTP and Other Circulation Assumptions	Land Use Element Assumptions	OCP-2000 Assumptions
NO ACTION ALTERNATIVE - OCP - 2000		
Build out of the MPAH and the RTP. On site circulation on the RMV property will be defined conceptually in the traffic analysis.	Build out of the General Plans, plus additional growth assumed in OCP-2000.	OCP-2000, including 35,888 additional dus in CAAs 59, 60 and 70. This Alternative assumes development of approximately 21,000 dus on the RMV.
NO ACTION ALTERNATIVE - RMV DEVELOPMENT PLAN		
Build out of the MPAH and the RTP. On site circulation on the RMV property, based on the on site circulation system defined by the RMV for the 14,000 du development plan.	Build out of the General Plans and the 14,000 dus proposed by the RMV Company for the RMV site.	OCP-2000 including 35,888 additional dus in CAA 59, 60 and 70, excluding the 21,000 dus on the RMV site. This Alternative would include the 14,000 dus proposed as part of the RMV development plan.

(1) Assumptions regarding build out of the MPAH or of committed MPAH improvements do not assume construction of the corridor.

Source: Phase II Collaborative (2002).

TABLE 4.6-1
NO ACTION SCENARIOS

Scenario (1)	MPAH and RTP Assumptions (2)	Land Use Element Assumptions	OCP-2000 Assumptions
Scenario 1: No Action Scenario Committed MPAH and RTP Only and OCP-2000	Committed and funded MPAH and RTP only. On site circulation on the RMV property will be defined conceptually in the traffic analysis.	Build out of the General Plans, plus additional growth based on OCP-2000.	OCP-2000, including 35,888 additional dus in CAAs 59, 60 and 70, including the 21,000 dus on the RMV site.
Scenario 2: No Action Scenario Committed MPAH and RTP Only and RMV Development Plan	Committed and funded MPAH and RTP only. On site circulation on the RMV property, based on the on site circulation system defined by the RMV for the 14,000 du development plan, if available from the RMV Company. If no information is available, a conceptual system will be defined in the traffic analysis.	Build out of the General Plans, plus additional growth based on the proposed development plan for RMV (14,000 dus).	OCP-2000, including 35,888 additional dus in CAAs 59, 60 and 70, excluding the 21,000 dus on the RMV site. This Scenario would include the 14,000 dus proposed as part of the development plan for RMV.
Scenario 3: No Action Scenario Committed MPAH and RTP only and General Plan Land Use	Committed and funded MPAH and RTP only.	General Plan build out.	OCP-2000, excluding 21,000 of the approximately 35,888 new dus assumed in CAAs 59, 60 and 70 and including the 6,250 dus that could be constructed on RMV under the existing LUE. All other growth assumed for these three CAAs and all other CAAs under OCP-2000 would remain unchanged. This Alternative assumes development of 6,250 dus on the RMV.
Scenario 4: No Action Scenario Committed MPAH and RTP only and Constrained Land Use	Committed and funded MPAH and RTP only.	Less than General Plan build out.	OCP-2000, excluding 21,000 of the approximately 35,888 new dus assumed in CAAs 59, 60 and 70. All other growth assumed for these three CAAs and all other CAAs under OCP-2000 would remain unchanged. This Alternative assumes development of no dus on the RMV.

(1) For Scenario 1, the additional improvements are assumed to be defined in the development plan for the RMV. In the event no such transportation improvements are identified, Scenario 1 will assume only committed and funded MPAH and RTP improvements.
(2) Assumptions regarding build out of the MPAH or of committed MPAH improvements do not assume construction of the corridor.

Source: Phase II Collaborative (2002).

FIGURE 4.4-2
TYPICAL CROSS SECTION ON I-5 UNDER THE I-5 ALTERNATIVE
[CDMG IN JUNE]

TABLE 4.5-1
NO ACTION ALTERNATIVES

MPAH (1), RTP and Other Circulation Assumptions	Land Use Element Assumptions	OCP-2000 Assumptions
NO ACTION ALTERNATIVE - OCP - 2000		
Build out of the MPAH and the RTP. On site circulation on the RMV property will be defined conceptually in the traffic analysis.	Build out of the General Plans, plus additional growth assumed in OCP-2000.	OCP-2000, including 35,888 additional dus in CAAs 59, 60 and 70. This Alternative assumes development of approximately 21,000 dus on the RMV.
NO ACTION ALTERNATIVE - RMV DEVELOPMENT PLAN		
Build out of the MPAH and the RTP. On site circulation on the RMV property, based on the on site circulation system defined by the RMV for the 14,000 du development plan.	Build out of the General Plans and the 14,000 dus proposed by the RMV Company for the RMV site.	OCP-2000 including 35,888 additional dus in CAA 59, 60 and 70, excluding the 21,000 dus on the RMV site. This Alternative would include the 14,000 dus proposed as part of the RMV development plan.

(1) Assumptions regarding build out of the MPAH or of committed MPAH improvements do not assume construction of the corridor.

Source: Phase II Collaborative (2002).

TABLE 4.6-1
NO ACTION SCENARIOS

Scenario (1)	MPAH and RTP Assumptions (2)	Land Use Element Assumptions	OCP-2000 Assumptions
Scenario 1: No Action Scenario Committed MPAH and RTP Only and OCP-2000	Committed and funded MPAH and RTP only. On site circulation on the RMV property will be defined conceptually in the traffic analysis.	Build out of the General Plans, plus additional growth based on OCP-2000.	OCP-2000, including 35,888 additional dus in CAAs 59, 60 and 70, including the 21,000 dus on the RMV site.
Scenario 2: No Action Scenario Committed MPAH and RTP Only and RMV Development Plan	Committed and funded MPAH and RTP only. On site circulation on the RMV property, based on the on site circulation system defined by the RMV for the 14,000 du development plan, if available from the RMV Company. If no information is available, a conceptual system will be defined in the traffic analysis.	Build out of the General Plans, plus additional growth based on the proposed development plan for RMV (14,000 dus).	OCP-2000, including 35,888 additional dus in CAAs 59, 60 and 70, excluding the 21,000 dus on the RMV site. This Scenario would include the 14,000 dus proposed as part of the development plan for RMV.
Scenario 3: No Action Scenario Committed MPAH and RTP only and General Plan Land Use	Committed and funded MPAH and RTP only.	General Plan build out.	OCP-2000, excluding 21,000 of the approximately 35,888 new dus assumed in CAAs 59, 60 and 70 and including the 6,250 dus that could be constructed on RMV under the existing LUE. All other growth assumed for these three CAAs and all other CAAs under OCP-2000 would remain unchanged. This Alternative assumes development of 6,250 dus on the RMV.
Scenario 4: No Action Scenario Committed MPAH and RTP only and Constrained Land Use	Committed and funded MPAH and RTP only.	Less than General Plan build out.	OCP-2000, excluding 21,000 of the approximately 35,888 new dus assumed in CAAs 59, 60 and 70. All other growth assumed for these three CAAs and all other CAAs under OCP-2000 would remain unchanged. This Alternative assumes development of no dus on the RMV.

(1) For Scenario 1, the additional improvements are assumed to be defined in the development plan for the RMV. In the event no such transportation improvements are identified, Scenario 1 will assume only committed and funded MPAH and RTP improvements.

(2) Assumptions regarding build out of the MPAH or of committed MPAH improvements do not assume construction of the corridor.

Source: Phase II Collaborative (2002).

SECTION 5.0
OTHER ALTERNATIVES CONSIDERED AND ELIMINATED FROM FURTHER STUDY

5.1 INTRODUCTION

Consistent with Federal Highway Administration (FHWA) regulations (23 Code of Federal Regulations (CFR) 771.123 (c)), this Section describes alternatives which were evaluated during the previous phases of the planning process for the Foothill Transportation Corridor - South (FTC-S) and which were subsequently eliminated from further detailed study for the current Environmental Impact Statement/Subsequent Environmental Impact Report (EIS/SEIR). Specifically, these alternatives are based on the following:

- The environmental studies conducted for the *Final Environmental Impact Report (TCA EIR 3) Foothill Transportation Corridor Oso Parkway to Interstate 5* which evaluated a wide range of corridor alignment alternatives (Sections 5.2, 5.3 and 5.5), a transit alternative (Section 5.4), corridor alternatives that do not terminate at Interstate 5 (I-5) (Section 5.5) and a Transportation Systems Management (TSM) Alternative (Section 5.6).

- Phase I of the South Orange County Transportation Improvement Project (SOCTIIP) Collaborative process which focused on the identification of a range of alternatives for consideration in the EIS/EIR including corridor, I-5 widening, arterial and mass transit alternatives (Section 5.7). In addition, during Phase II, the Collaborative identified an additional alternative, for tolled arterials (Section 5.8). The development of these alternatives by the regulatory/resource agencies is mandated by the NEPA/404 Memorandum of Understanding, which required an agreement by these parties on the alternatives prior to their being evaluated in the EIS/SEIR.

These alternatives are described in the following sections, including discussion of when they were previously evaluated and the reasons why they were eliminated from further study in the current EIS/SEIR. The descriptions of these alternatives and explanations for why they are not considered in detail in the current EIS/SEIR are based on the Foothill/Eastern Transportation Corridor Agency's (TCA's) *Final EIR No. 3* and on the range of alternatives considered by the SOCTIIP Collaborative in Phase I of the Collaborative process. *Final EIR No. 3* and the proceedings of Phase I of the Collaborative process are on file at the TCA. As appropriate, the conclusions of these previous studies were reviewed based on current information. The conclusions of these previous studies were not changed by any more recent information.

5.2 VARIATIONS TO THE FAR EAST CORRIDOR ALTERNATIVES

In November 1986 when the Orange County Board of Supervisors and the TCA Board of Directors selected the C Alignment to be analyzed in an EIR, direction was given that the southern segment of the C Alignment would be considered to be anywhere in the Cristianitos/San Mateo Valley. This was due to the wide range of possible alternatives and the preliminary nature of the engineering and environmental analysis, as well as ongoing coordination efforts with Marine Corps Base (MCB) Camp Pendleton.

As described in TCA *Final EIR No. 3,* from August 1987 to May 1989, the TCA developed and prepared engineering and environmental analysis on the CW, CX, CY and CZ variations for the C Alignment through Cristianitos/San Mateo Valley. Each variation provided a different route and connection to I-5 as shown on Figure 5.2-1. The CY variation was found to have a number of substantial engineering and environmental constraints including geotechnical, hydrological, biological and cultural resources impacts. Because the CY variation was clearly not the environmentally superior alternative of the C alignment variations, it was not carried for further evaluation at that time. The other three variations appeared to be feasible and received further evaluation in TCA *EIR No. 3* to determine which was environmentally superior and would be carried forward as the C alignment. Based on the evaluation in *EIR No. 3*, the CX and CZ alignments were determined not to be environmentally superior to the CW variation based on greater impacts related to biological resources, wetlands, isolation of greater amounts of land on Camp Pendleton and inconsistencies with the Camp Pendleton Master Plan. Therefore, the CW variation was identified as the environmentally superior of the remaining three variations and was presented as the preferred C Alignment in TCA *EIR No. 3*.

Based on the environmental analysis in TCA *EIR No. 3* and because three alignment variations in the Cristianitos/San Mateo Valley area will be considered in the current EIS/SEIR, no further evaluation of these earlier variations for the C alignment will be conducted for the current EIS/SEIR.

5.2.1 C ALIGNMENT

The C alignment was one of the two primary build alternatives evaluated in TCA *EIR No. 3*. The C alignment generally followed the same alignment as the Modified C alignment described above. However, the C alignment was different as it passed through San Onofre State Beach. Following public review of TCA *Draft EIR No. 3*, in response to concerns raised by agencies and residents of the City of San Clemente (specifically those residing near the City boundary with the State Beach), the TCA developed an alternative which had a split profile from the I-5 connectors to the proposed interchange with Avenida Pico, basically through San Onofre State Beach. Figure 5.2-2 shows the cross section for a split profile, with dimensions in meters.

In addition to not having a split profile, the C alignment was not depressed below Cristianitos Road and was approximately 152 meters (500 feet) west of the Modified C alignment just north of San Mateo Campground. The split profile and shift of the alignment in this area were designed to reduce impacts to existing land uses and landforms. Specifically, the C alignment would have impacted substantial landforms associated with the ridgeline which parallels the City of San Clemente/County of San Diego boundary, and would have required the removal of the pinnacle of a major knoll in this area. The C alignment would also have resulted in substantial aesthetic impacts on residences adjacent to the City boundary. The shift of the alignment also reduced potential noise impacts on residential areas in San Clemente. The C alignment would also reduce aesthetic and land use impacts on MCB Camp Pendleton and San Onofre State Beach compared to the Modified C alignment.

5.2.2 MODIFIED C ALIGNMENT

The Modified C Alignment was selected by the TCA as the locally preferred alternative with certification of TCA *EIR No. 3* and TCA *Supplemental EIR No. 3* in October 1991. The Modified C Alignment generally followed the alignment of the CP (now referred to as the Far East) alignment with two exceptions. First, the Modified C Alignment did not avoid sensitive biological resources in and near Sulphur Canyon and did not avoid the population of the federally endangered Pacific pocket mouse (PPM, *Perognathus longimembris pacificus)* in San Onofre State Beach west of the San Mateo Campground.

In the north part of the study area, the Modified C alignment was east of the CP (Far East) alignment. In 1995, during development of the Southern Natural Community Conservation Plan (NCCP) program, the alignment was shifted to the west at the request of the United States Fish and Wildlife Service (USFWS). This shift was proposed to avoid high quality scrub communities along this segment of the alignment and to protect sensitive species and wildlife movement in Sulfur Canyon.

In approximately this same time frame, when the shift was made to move the alignment out of the Sulfur Canyon area, PPM was found at the southernmost part of the alignment in San Onofre State Beach. As a result, the TCA redesigned the Modified C Alignment to avoid the area identified as occupied by PPM according to data collected in extensive surveys in summer and fall 1995.

The resulting Modified C alignment was renamed the CP alignment following the incorporation of these design changes. The CP alignment, now referred to as the Far East Complete Alternative, will be evaluated in detail in the current EIS/SEIR. Because the original Modified C Alignment was changed to avoid these specific environmental impacts and the resulting CP (Far East) alignment will be evaluated in the current EIS/SEIR, no further analysis of the Modified C alignment will be provided in the current EIS/SEIR.

5.3 OTHER CORRIDOR ALTERNATIVES PREVIOUSLY CONSIDERED IN TCA FINAL EIR NO. 3

The purpose of Final EIR #423 Foothill Transportation Corridor Orange County General Plan Transportation Element Amendment Specific Route Location (County of Orange, May 25, 1983) conducted by the County of Orange for the FTC-S was to identify the most feasible alternatives for further consideration for that corridor. Based on the results of the *Foothill Transportation Corridor Cristianitos Segment Alternative Alignment Analysis* (County of Orange, September 1986) and on public testimony, in November 1986 the Orange County Board of Supervisors and the TCA selected four primary alternatives for further study. As described in TCA *Final EIR No. 3,* these were the BX, C, D and E alignments shown on Figure 5.3-1. The BX and C Alignments were evaluated in detail in TCA *EIR No. 3*. The D and E alignments were not found to be environmentally superior in *EIR No. 3* because both would severely affect MCB Camp Pendleton, potentially compromising the Military Mission of the Base. The Marine Corps indicated its objection to these two alignments. These alternatives, described briefly below, were determined not to be reasonable or feasible and were eliminated from further study in *Final EIR No. 3*. A more detailed discussion of these alternatives is provided in the *Foothill Transportation Corridor - South Major Investment Study* (MIS, Michael Brandman Associates, April 1996). The MIS is on file at the TCA.

5.3.1 THE D ALIGNMENT FROM TCA EIR NO. 3

The D Alignment generally followed the same route as the previously considered C Alignment through Canada Chiquita into Canada Gobernadora. As it continued across Ortega Highway near Cristianitos Road, the alignment traveled along the west flank of Cristianitos Road, continuing southeast to the Orange/San Diego County line. From this point, it continued on an alignment parallel to and approximately 2.1 kilometers (km, two miles (mi)) east of the C Alignment to join I-5 near the San Onofre Nuclear Generating Station (SONGS). This alignment would have required widening an approximately 2.4 km (1.5 mi) long segment of I-5. This alignment was rejected from further consideration in TCA *Final EIR No. 3* because it would result in substantial adverse impacts on the Military Mission of MCB Camp Pendleton.

5.3.2 THE E ALIGNMENT FROM TCA EIR NO. 3

The E Alignment, similar to the BX Alignment, was aligned on the west side of Canada Chiquita and crossed Ortega Highway near the San Juan Creek bridge. It then paralleled Avenida La Pata to a point near Cristianitos Road in San Onofre State Beach. This alignment then turned south to connect with I-5 in the vicinity of SONGS. As with the D Alignment, widening of I-5 would have been required for this alignment. This alignment was rejected from further consideration in TCA *Final EIR No. 3* because it would result in substantial adverse impacts on the Military Mission of MCB Camp Pendleton.

5.4 ALL TRANSIT ALTERNATIVE

An all transit alternative has been considered several times for the SOCTIIP study area. Initially, an all transit alternative was considered by the County and subsequently by the TCA in *EIR No. 3*. All transit alternatives for the area have been addressed by the Orange County Transportation Authority (OCTA) in regional rail planning studies and by the TCA during preparation of the MIS for the FTC-S. It has been consistently determined that an all transit alternative for the FTC-S would not be reasonable or feasible in meeting the forecasted travel needs in south Orange County. This conclusion was supported by the Southern California Association of Governments (SCAG) MIS Peer Review Group with its approval of the FTC-S MIS on May 7, 1996 and by the OCTA's "Fast Forward – A Long-Range Transportation Plan" (July 27, 1998).

Although an all transit alternative was previously eliminated from further consideration based on a number of evaluations concluding with the MIS, general discussion is provided here of the issues regarding the feasibility of a transit alternative and how those issues relate to the study area. A summary of studies conducted by the OCTA for the provision of transit in Orange County, including the study area, is provided. These studies addressed the potential for implementing transit throughout Orange County, including the FTC-S study area.

5.4.1 DESCRIPTION AND ENVIRONMENTAL CONSIDERATIONS ASSOCIATED WITH AN ALL TRANSIT ALTERNATIVE

An all-transit alternative for the FTC-S assumes a light rail transit (LRT) system in lieu of general purpose and high occupancy vehicle (HOV) travel lanes. This alternative could potentially provide distinct environmental advantages because an LRT system is assumed to require substantially less right-of-way than a corridor, freeway improvements or arterial improvements.

Although a transit only alternative is not considered a reasonable alternative based on past evaluations, future implementation of a LRT system is not precluded by construction of any of the SOCTIIP build alternatives. SCAG specifically requires that new transportation corridors provide adequate right-of-way to accommodate future transit. The total rights-of-way of the corridor alternatives would be wide enough to accommodate a future LRT track. If population and employment densities increase sufficiently over time in south Orange County and LRT is planned, LRT track facilities could be accommodated in the corridor medians. The arterial improvements and I-5 widening alternatives do not include medians of sufficient width to accommodate LRT tracks. However, should LRT be pursued in the future based on population and employment densities, existing travel lanes could be dedicated to the LRT track or additional right-of-way adjacent to the arterial/freeway could be acquired. As a result, the SOCTIIP build alternatives do not preclude the opportunity for LRT in south Orange County in the future.

5.4.2 DENSITY REQUIREMENTS FOR LRT

The two most critical issues confronting fixed LRT feasibility in south Orange County, and in much of Orange County, are the lack of a central business district (CBD) and low population densities. Orange County currently has a number of moderately dense business activity centers such as central Santa Ana, the Anaheim commercial/recreation area, Irvine Business Complex, Irvine Spectrum and the South Coast Plaza area. Surrounding these activity nodes are a variety of residential densities, including urban, suburban and rural uses, with support commercial and business uses. This type of land use development pattern results in a series of interconnected, relatively self-contained nodes of activity. Unlike urban areas organized in a concentric pattern, Orange County's multi-nucleated development does not currently provide the residential and employment densities and spatial structure in south Orange County to support a public transportation system based on a backbone LRT system. Based on recent land use projects approved and proposed in south Orange County, these developments are suburban and would not provide densities to support LRT.

The role of land use patterns in determining the type of transportation used is critical (Pushkarev and Zupan 1977). Specifically, the location and density of residential uses in relation to large CBDs are common criteria for evaluating the feasibility of LRT. According to Cervero (1984), LRT development requires an average residential density of nine dwelling units per acre (du/ac) in a transit corridor of approximately 65 to 260 square kilometers (25 to 100 square miles), based on a CBD (destination) of approximately 4.6 million square meters (50 million square feet) of development. This residential density is necessary because of the need to locate large numbers of dwelling units in proximity to LRT stations.

Existing development patterns in the SOCTIIP area do not meet these general criteria for LRT feasibility. The largest single areas of employment and commercial uses in the SOCTIIP area are, from south to north, downtown San Clemente, Rancho Santa Margarita Business Park in Rancho Santa Margarita and the Irvine Spectrum at the intersection of I-5 and Interstate 405 (I-405). The former Marine Corps Air Station (MCAS) El Toro site, north of I-5 and I-405, is currently being planned for civilian reuse by both Orange County and the El Toro Reuse Planning Authority. Based on the passage of Measure W in the March 2002 election, potential future uses on the El Toro site are anticipated to include institutional, cultural, recreation, residential and open space uses but are not expected to include an international civilian airport. Downtown San Clemente and the Rancho Santa Margarita Business Park do not include sufficient business/commercial space to meet the minimum requirement of 4.6 million square meters (50 million square feet) to support LRT. At build out, the Spectrum may meet this minimum requirement. In summary, there is no single major concentrated node of business and commercial uses south of the I-5/I-405 interchange that meets the minimum standard for supporting LRT in south Orange County.

The approximately 259 square kilometer (100 square mile) area surrounding the proposed SOCTIIP corridor alternatives in south Orange County is largely developed in low to moderate density suburban residential uses with the Rancho Mission Viejo site the largest undeveloped parcel in the area. The Cities of Irvine, Laguna Hills, Laguna Niguel, Aliso Viejo, Mission Viejo, Rancho Santa Margarita, San Juan Capistrano and San Clemente and the communities of Coto de Caza and Las Flores are largely built out. The Talega and Ladera Planned Communities are currently under construction with build out expected by 2010. It is anticipated that the remaining undeveloped areas in the SOCTIIP study area will remain as open space or will be developed with low and medium density residential uses similar to the existing residential developments throughout this part of south Orange County. A substantial part of the remaining undeveloped land is permanently committed to open space uses. In addition, there are few areas in south Orange County where higher density uses could occur and, based on General Plans and existing and approved development, substantially higher densities in undeveloped areas in south Orange County are not likely. Therefore, based on past development patterns, it is unlikely that the average residential densities in south Orange County at build out will approach or exceed the desired density of nine dwelling units per acre for LRT feasibility.

5.4.3 LRT PLANNING IN ORANGE COUNTY

The determination that LRT is not feasible or planned for the SOCTIIP area is consistent with several OCTA studies described below, which do not call for fixed rail transit in this part of Orange County or along either this segment of I-5 or the southern segment of the FTC.

5.4.3.1 OCTA Regional Rail Evaluation

In November 1990, Orange County voters approved Measure M, a half-cent local sales tax increase to fund transportation improvements. The improvements in the Measure M program are the rebuilding of the County's freeway system; development of a system of high speed arterials (super streets); improvements to the local street system; implementation of TSM and transportation demand management (TDM) measures to more efficiently use existing transportation resources; and development of a high capacity urban rail system in Orange County.

Since the passage of Measure M, the OCTA has conducted extensive studies to evaluate various LRT options for Orange County and to assess the environmental impacts associated with LRT. The OCTA completed the location system planning process as documented in the *Countywide Rail Study Final Report: Long Range Transit System Plan – Development Strategy* (OCTA, October 1991), which resulted in the development of a 47 mile "Initial Urban Rail Network" and the selection of a priority corridor for more detailed study. No LRT corridors were identified in south Orange County in this study, based on overall densities and the lack of concentrated, high density commercial/industrial centers.

5.4.3.2 OCTA CenterLine Project

In December 2000, the OCTA issued a Supplemental Draft EIS/EIR for the proposed CenterLine LRT project. Alternatives considered in that Draft EIS/EIR included a variety of LRT alignments in central and northern Orange County. The southernmost extension of the LRT alternatives was to the Irvine Transportation Center, southeast of the El Toro site and north of the Irvine Spectrum. No LRT alignments were considered in south Orange County, based on overall densities and the lack of concentrated, high density commercial/industrial centers. In spring 2001, based on substantial controversy in many of the cities along the proposed LRT alignments, the OCTA temporarily terminated planning and the environmental process for the CenterLine. In early 2002, the OCTA re-initiated study for the CenterLine project in the future, focusing on building consensus for a starter or initial phase project in cities in the central and northern parts of the County. There is no indication from the OCTA that LRT would be considered in the SOCTIIP area in south Orange County in the foreseeable future because LRT would not be cost effective and existing and planned land uses are not supportive of LRT.

5.4.3.3 OCTA Fast Forward A Long-Range Transportation Plan

The “Fast Forward Plan” (OCTA, July 27, 1998) provides a strategy for managing future transportation needs in Orange County and specifically identifies a program to:

- Increase commuter rail services and station locations. No new stations are proposed in the SOCTIIP area although increased service is anticipated to be provided on the existing commuter rail line which extends across the SOCTIIP area in south Orange County, from the City of San Clemente to the City of Irvine.

- Implement a 28-mile urban rail system in central Orange County. The southern most station on this system would be in the vicinity of the I-5/I-405 interchange. This program component is expected to be refined to focus on a starter or initial phase CenterLine project in the north and central parts of Orange County as described earlier. There are still serious doubts about the feasibility of such a system and, at this time, there are no guarantees that such as system will be built.

- Increase bus service countywide.

5.4.3.4 Other Rail Transit

In addition to the LRT studies described above, Amtrak, Caltrans and the California High Speed Rail Authority (CHSRA) are evaluating possible commuter or heavy rail improvements in south Orange County as described earlier in Section 4.1.5.6 (Transit). These potential improvements include increased levels of commuter service on the existing Metrolink alignment in the Los Angeles to San Diego (LOSSAN) corridor; possible double tracking of the existing rail alignment in the southern Orange County part of the LOSSAN corridor; and high speed rail (HSR) from San Diego to San Francisco, with possible alignments along the coast or inland in south Orange County. However, all these services would be limited stop commuter/intercity services and would not effectively serve the same type of market as an LRT system.

5.4.4 SUMMARY OF THE FEASIBILITY OF LRT IN THE SOCTIIP AREA

In summary, based on the existing and anticipated employment and residential densities in south Orange County, the existing and anticipated development patterns in study area, the need to serve travel demand which would not be met by LRT, and past and anticipated future LRT planning, LRT is not a feasible transportation system option in south Orange County. Therefore, an all-transit alternative assuming implementation of an LRT system in south Orange County was not considered for detailed evaluation in the current EIS/SEIR.

5.5 ALTERNATE ROUTES ON THE SOUTHERN TERMINUS

A number of comments on TCA *Draft EIR No. 3* requested that the TCA consider an alternative under which the corridor would not terminate at I-5. As part of TCA *Final EIR No. 3*, alternatives which terminated at State Route 78 (SR 78) in San Diego County and Interstate 15 (I-15) in Riverside County were considered. These possible routes are shown conceptually on Figure 5.5-1. These alternate routes which would not terminate at I-5 were eliminated from further consideration in TCA *Final EIR No. 3* primarily because they did not meet the project objectives and they would have extensive impacts on the Military Mission of MCB Camp Pendleton.

A route connecting to either I-15 or SR 78 would be expected to result in substantial adverse environmental impacts, including impacts related to geology and soils; hydrology; biological resources; air quality; cultural and scientific resources; noise; land use; landform and aesthetics; parks, recreation and open space; public services and utilities; hazardous materials; military impacts and traffic. These alternatives were eliminated from further consideration in the current EIS/SEIR based on information provided in Final TCA EIR No. 3, October 1991 (Volumes 1 (pages 2-31 to 2-33) and III (pages 9 and 10), as described in the following sections.

5.5.1 ALTERNATIVE ROUTE TO SR 78

As described in Final EIR No. 3, the extension of the corridor south to SR 78 was deemed not reasonable, largely because of the extensive impacts to MCB Camp Pendleton. The Department of the Navy (DON) has consistently objected to the encroachment of non-military facilities onto the Base property. The TCA would not be able to acquire the Marine Corps property through eminent domain. The extension of the corridor south to SR 78 would severely impact the Military Mission and operational viability of MCB Camp Pendleton. The corridor would sever the five different beach fronts from the inland parts of the Base. The ability to continue maneuvers, including amphibious warfare activities and combat training, would be severely compromised and potentially completely prohibited because of the introduction of this type of land use across this part of the Base. Additionally, the alignment would traverse the Sierra Live Ordnance Impact Area. The construction of a road in that area would be problematic due to the potential presence of unexploded ordnance and soil contamination. The DON has indicated that this alternative would place the continued operation of MCB Camp Pendleton in jeopardy. Therefore, the feasibility of a route that traverses the Base property in this area is questionable. For these reasons, this alternative was rejected in Final EIR No. 3 (Volume III, page 10) and will not be considered further in the current EIS/SEIR.

5.5.2 ALTERNATIVE ROUTE TO I-15

The San Diego County General Plan Circulation Element includes an alignment for a "major road" which would serve the travel demand of a transportation facility extending from Orange County to I-5 in San Diego County. This road, identified as SA-10 on the Circulation Element, was included in the San Diego General Plan in 1964. As shown on Figure 5.5-1, SA-10 would follow an alignment generally along the east boundary of San Onofre State Beach in the north part of San Diego County and would extend north to the Orange/San Diego County line where it would then begin to travel east. As it travels east, SA-10 would traverse property in MCB Camp Pendleton, the Cleveland National Forest and San Diego County. As shown on the Circulation Element, SA-10 would connect with De Luz Road (identified as a light and a rural collector road) and would extend to Mission Road which would then have an interchange with I-15.

TCA *Final EIR No. 3* indicated the County of San Diego had no plans at that time to construct this facility and it is unlikely that it will ever be built due to substantial constraints including, but not limited to, topography, a designated wilderness area along the route and MCB Camp Pendleton. Field reconnaissance was conducted by the County in the late 1980s for the segment of SA-10 from Fallbrook to De Luz Road to make a preliminary assessment of the feasibility of that route. It was determined that due to natural geographic constraints, among other things, it may not be feasible to construct this road. The road is not currently being pursued by the County (Denny, pers. comm., 1996). For these reasons, this alternative will not be considered further in the current EIS/SEIR.

5.6 TRANSPORTATION SYSTEMS MANAGEMENT ALTERNATIVE

Consistent with FHWA policy, the feasibility of implementing a TSM alternative was evaluated. The concept of TSM is the implementation of a wide range of actions with low capital investment requirements that can improve transportation service. TSM recognizes the rising costs of highway improvements, intense competition for available resources and environmental concerns by emphasizing more efficient use of existing investments in the transportation infrastructure before additional investments are made in costly new facilities.

In 1977, FHWA and the Urban Mass Transportation Authority (later renamed the Federal Transit Authority) prepared a document compiling information on effective TSM measures. That report (Transportation Systems Management State of the Art, FHWA/UMTA, 1977) identified the following types of TSM actions:

- Actions to improve vehicular flow such as improved signalization, ramp metering, reversible lanes, removal of on street parking and use of one-way streets.
- Preferential treatment for HOVs.
- Reduced peak period travel through actions such as work rescheduling and peak period truck restrictions.
- Parking management through the use of parking regulations and park-and-ride facilities.
- Promotion of non-auto or high-occupancy auto use through ridesharing, human-powered travel modes and auto-restricted zones.
- Transit and paratransit service improvements including transit marketing, security measures, transit shelters and terminals.
- Transit management efficiency measures through route evaluation, maintenance policies and evaluation of system performance.

Not all these types of TSM improvements would be applicable to a TSM Alternative in the SOCTIIP area. For example, some TSM measures, such as auto restrictions, one way streets and parking management, are most effective when focusing on circulation issues associated with a CBD or a distinct commercial/entertainment area. In addition, many TSM improvements already have been or are being implemented across Orange County by a wide range of agencies including Caltrans, the OCTA, the County of Orange and local cities as part of local, subregional and regional efforts to improve the efficiency of the transportation system in the County. Measures that have already been implemented or are programmed for implementation include HOV lanes on most of the highway system in Orange County, ramp metering and HOV bypass ramps where feasible, park-and-ride facilities, real time traffic monitoring, real time traffic information for drivers, extensive traffic signalization and coordination programs, and removal of on street parking. Many of the communities in south Orange County, particularly in the more recently developed areas, prohibit on street parking on most streets in commercial and retail areas and in many residential areas. Traffic signals are coordinated within each local jurisdiction throughout much of south Orange County. Park-and-ride facilities are provided at a number of permanent park-and-rides and transportation centers throughout south Orange County and at the rail stations. Real time traffic monitoring and real time traffic information are available on much of the freeway system and through local radio traffic programs throughout the County.

Reversible flow lanes on the FTC-S were evaluated in TCA *Final EIR No. 3* (Volume I, page 2-33) and the MIS to provide flexibility and responsiveness to travel demands, while minimizing the overall size of the facility. Under this measure, travel lanes would be used for northbound travel in the AM and for southbound traffic in the PM peak through temporary restriping of the total travel lanes on a facility. Transportation corridors with high directional flows and general purpose travel lanes that are expected to experience extended periods of congestion are candidates for the use of reversible lanes. The traffic projections for the corridor alternatives in TCA *EIR No. 3* show a distinct directional traffic flow. However, it would not be feasible to implement reverse flow lanes during the initial construction stage of the corridor alternatives because the first phase proposes construction of four lanes total, two in each direction. Analysis in *Final EIR No. 3* showed it will be necessary to provide two general purpose lanes in both the northbound and southbound directions to accommodate merging operations and predicted traffic demand. Therefore, although traffic analysis for the corridor in *Final EIR No. 3* showed strong peak directional traffic flow, reversible flow lanes could not be implemented until subsequent phases of those corridor alternatives. As a result, the use of reversible lanes on the FTC-S would not substantially reduce the number of lanes on the corridor and, therefore, would not substantially reduce the environmental effects associated with corridor alternatives. Should future demand exceed the planned capacity of the corridor, the feasibility of implementing reversible lanes or other TSM improvements could be considered as part of operational improvements or when later phases of the project are implemented. However, because the anticipated need for and potential benefits of reversible lanes for the corridor are unknown at this time, this TSM measure was not considered for further evaluation as an independent alternative in the current EIS/SEIR.

Another TSM measure would be to implement reverse flow lanes on I-5. This would not be feasible because although there are distinct directional flows on I-5, the peak hour volumes are high enough in each direction that removal of travel lanes from one direction would limit the ability of I-5 to serve the overall existing demand in this corridor. Therefore, without the addition of new lanes on I-5, reversible lanes on I-5 in the SOCTIIP area were not considered feasible and will not be considered for further evaluation in the current EIS/SEIR.

Other TSM improvements could be considered on the arterial network or increased use of commuter rail and bus transit. In the SOCTIIP area there are limited arterial facilities although the Master Plan of Arterial Highways (MPAH) includes build out of the subregional arterial system in south Orange County as shown earlier in Section 4.0. The MPAH depicts Antonio Parkway/Avenida La Pata as an arterial essentially parallel to I-5 in the SOCTIIP area which would provide a continuous route from the Orange/San Diego County line to Rancho Santa Margarita. Antonio Parkway currently exists from Rancho Santa Margarita south to Ortega Highway. La Pata Avenue exists from Ortega Highway south to the Prima Deshecha Landfill and Avenida La Pata exists from the County line to just north of Avenida Pico. Ultimately, this road will be a continuous facility with four to six through travel lanes. The traffic analysis for TCA *EIR No. 3* showed that the traffic volumes on Antonio Parkway/Avenida La Pata substantially increase without the corridor and when tolls are charged on the corridor. Therefore, it does serve part of the same travel demand. However, it is not expected that Antonio Parkway/Avenida La Pata would serve regional through trips that would use the corridor or I-5. By implementing TSM improvements to Antonio Parkway, such as expanded intersections with additional turn capacities, signal interconnects and climbing lanes in the locations with steep grades, it would be possible to incrementally increase the capacity of that road at relatively low cost. Beach Boulevard, the first smart street to be constructed in Orange County, is an eight lane facility with a mid-block capacity of 45,000 to 60,000 average daily traffic (ADT). Given that Antonio Parkway is projected to be a six lane facility, the expected capacity would be at the lower end of this range. A capacity of 50,000 ADT would represent an approximately 10 percent capacity increase over what was assumed for Antonio Parkway in the traffic modeling for TCA *EIR No. 3*. If this entire 10 percent were diverted from the FTC-S, this would reduce the trips on the FTC-S by approximately 5,000 trips per day. When built out, Antonio Parkway/Avenida La Pata would be the only arterial highway parallel to I-5. The Arterial Improvements Only and Arterial Improvements Plus I-5 Widening Alternatives, which will be evaluated in detail in the current EIS/SEIR, include TSM improvements on Antonio Parkway/Avenida La Pata as well as other arterials in south Orange County. Therefore, no additional TSM alternative for arterials such as Antonio Parkway/Avenida La Pata will be evaluated in detail in the current EIS/SEIR.

I-5 is the only existing freeway in this area. Some TSM improvements, most notably ramp metering and HOV ramp bypass lanes, have been implemented in this corridor. HOV lanes could be implemented on the project segment of I-5, which will be evaluated in detail in the current EIS/SEIR as part of the I-5 Widening Alternative. Therefore, no additional TSM alternative for I-5 will be evaluated in detail in the current EIS/SEIR.

The only other existing major circulation facility in the SOCTIIP area is the commuter rail line that runs roughly parallel to I-5 in south Orange County. The OCTA currently operates a number of commuter trains on this alignment, with stations in Oceanside, San Clemente, San Juan Capistrano, Laguna Niguel/Mission Viejo (opened April 2002), Irvine and Tustin. The OCTA intends to continue to increase this commuter service, consistent with demand and available funding, as part of the regional commuter rail programs in southern California, as described earlier in Section 4.0. Increased commuter rail service is not anticipated to serve a majority of the travel demand in the SOCTIIP area for several reasons. First, there are a limited number of stations available and not all stations have bus service to extensive areas around the stations. Secondly, for many commuters, commuter rail service is not convenient to their trip origins and/or destinations. Third, commuter rail service is generally limited to the peak periods which may not effectively serve the travel times of many commuters. In addition, the service is predominately oriented toward destinations in central and north Orange County and Los Angeles County, with origins predominately in residential areas in Orange and San Diego Counties. Therefore, commuter rail may not effectively serve many trips whose origins and/or destinations are in south Orange County. For these reasons, increased commuter rail as a TSM alternative will not be considered for detailed evaluation in the current EIS/SEIR.

The final TSM measure considered would be to provide relief to I-5 through increased bus transit use. The OCTA currently operates a number of routes in south Orange County, along Pacific Coast Highway and through the developed parts of the Cities of Irvine, Mission Viejo, Laguna Hills, Laguna Niguel, Aliso Viejo, San Clemente, San Juan Capistrano and Dana Point. These include local and express, limited stop routes. There are several park-and-rides in south County including one in San Juan Capistrano and one at the Laguna Hills Transportation Center.

The OCTA regularly assesses its bus system and considers system wide and local area changes to better serve Orange County's travel needs. In March 1994, the IBI Group conducted a major study for OCTA called the *Bus System Improvement Project* (BSIP). The BSIP was initiated to analyze transit system trends and needs; obtain public input; review the market climate and policy framework; establish new directions for the bus system; and define specific improvement plans and an implementation strategy. The result of the year long study included restructuring the system to expand ridership, increase convenience, improve efficiency and effectiveness, and to provide more service options without increasing net operating cost.

Based on the BSIP, the SOCTIIP area had some of the lowest percentages of transit use in the County. The BSIP found that transit use in south Orange County is low because most of the population growth in the area has and will continue to be young couples and families, a high proportion of which are young professionals who do not use transit. Low transit use in south Orange County was attributed to:

- Growing incomes and car ownership.
- Growth of gated communities that are difficult to serve with conventional bus services.
- Lower propensity of the population using transit.
- Inability of the transit system to provide services that can compete cost effectively with the automobile.
- Low density development.
- Circuitous road system and hilly terrain.

None of these characteristics in south County has changed measurably since the BSIP was completed. Some newer developments in south County such as the Talega and Ladera developments may have net densities somewhat higher than densities in other communities such as Mission Viejo, Coto de Caza or San Clemente. However, overall gross and net densities in south County are still relatively low and would not be sufficient to support a substantial increase in bus transit. As a result, the rate of bus transit ridership in the SOCTIIP area would be expected to remain relatively low. In 2000, the OCTA substantially restructured the entire route system. The intent of this restructuring was to provide more direct travel for bus patrons by minimizing routing off the major travel path. However, because the general characteristics of south County have not changed since the earlier study, it does not appear that a bus-only TSM alternative would substantially increase bus use or reduce traffic demand in south Orange County. Therefore, no bus-only TSM alternative will be considered in the current EIS/SEIR.

This evaluation of the cumulative benefit of TSM strategies indicates that there would not be sufficient improvement in the transportation service to rely solely on TSM measures to provide the circulation relief needed in the future. Therefore, no TSM only alternatives are proposed for consideration in the current EIS/SEIR. However, TSM measures are expected to continue to be implemented County wide, by a range of agencies in the future, consistent with overall local, subregional and regional transportation goals and objectives.

5.7 OTHER BUILD ALTERNATIVES CONSIDERED BY THE SOCTIIP COLLABORATIVE BUT NOT CARRIED FORWARD FOR EVALUATION IN THE EIS/SEIR

As part of the Phase I alternatives development and evaluation process conducted by the SOCTIIP Collaborative, the Collaborative considered a number of combinations of various corridor, I-5, arterial and transit alternatives ("Alternatives to the Proposed SOCTIIP Project Considered by the SOCTIIP Collaborative, But Not Brought Forward in the NEPA and Section 404 Processes," October 4, 2000). The alignments of the build alternatives considered by the Collaborative are shown on Figure 5.7-1. The Collaborative specifically considered whether these alternatives would meet the project purpose and need, other available local planning and land use information, and the 2020 traffic projections in their determination of the reasonableness of these alternatives. These build alternatives, described briefly in this Section, were not carried forward for consideration in the current EIS/SEIR as described below.

5.7.1 CORRIDOR ALTERNATIVES CONSIDERED BY THE COLLABORATIVE BUT NOT CARRIED FORWARD

The Collaborative used an iterative process to identify and screen possible alignments for corridor alternatives for the FTC-S. This process resulted in the review of thirty-two alignment segments for reasonableness as possible SOCTIIP corridor alternatives. Using selection criteria developed by the Collaborative, twenty-two of these segments were determined to satisfy the SOCTIIP purpose and need and were considered reasonable alternatives. Those segments were used to develop the corridor alternatives described in detail in Section 4.0. The remaining ten alignment segments, described in the following sections, were eliminated from further consideration in the current EIS/SEIR due to environmental, land use, design and/or traffic considerations. These alignment segments were generally eliminated where major environmental constraints could be avoided and/or minimized by other reasonable alignments or if the alternatives presented major engineering and geotechnical design constraints while only minimally improving traffic congestion on I-5.

5.7.1.1 Alignment Segment 2A

Alignment Segment 2A was a westerly north-south link between a southern extension of existing State Route 241 (SR 241) at Oso Parkway and Alignment Segment 2, and expanded Antonio Parkway, near Crown Valley Parkway. It was not selected for consideration because Alignment Segment 2 provide more traffic relief to I-5 and the arterial network than Alignment Segment 2A, it lacked a connection to the existing Orange County transportation system, and impacts to Chiquita Ridge, coastal sage scrub (CSS) habitat, established wildlife movement corridors and habitat for the coastal California gnatcatcher were avoided by dropping Alternative Segment 2A. Therefore, this alternative segment will not be evaluated in the current EIS/SEIR.

5.7.1.2 Alignment Segments 2B and 2C

Alignment Segments 2B and 2C were westerly north-south connectors between SR 241 at Oso Parkway and Alignment Segment 3 (San Joaquin Extension). Alignment Segment 2B traversed open space between the Ladera Planned Community (PC) and I-5. Alignment Segment 2C circled the west edge of the Ladera PC and terminated at Ortega Highway. The Collaborative dropped Alignment Segments 2B and 2C from further consideration because traffic analysis for these segments showed only limited improvements to I-5 and the arterial network. Alignment Segments 2B and 2C would have impacted open space between Antonio Parkway and I-5 and the Ladera PC. The Collaborative selected the widening of Alignment Segment 2 (Antonio Parkway) over Alignment Segments 2B and 2C because it provided improved traffic relief and greater avoidance of potential environmental and land use impacts. Impacts to Horno and Arroyo Trabuco Creeks, CSS habitat, established wildlife movement corridors, planned open space and habitat for coastal California gnatcatcher and least Bell's vireo were avoided by dropping Alternative Segments 2B and 2C from consideration. Therefore, these alternative segments will not be evaluated in the current EIS/SEIR.

5.7.1.3 Alignment Segment 3

Alignment Segment 3 (San Joaquin Extension) was proposed to extend southeast from the existing terminus of State Route 73 (SR 73) to Alignment Segment 2 (Antonio Parkway) north of Alignment Segment 4 (Ortega Highway). However, Alignment Segment 3 was not selected for consideration because it provided only limited traffic relief to I-5 and the arterial network and it presented engineering constraints that would have required a four-level interchange with I-5 with potential for significant right-of-way take that would have displaced residences, public property and businesses. Impacts to Horno and Arroyo Trabuco Creeks, and habitat for coastal California gnatcatcher and least Bell's vireo were avoided by dropping Alternative Segment 3 from further consideration. Therefore, this alignment segment will not be evaluated in the current EIS/SEIR.

5.7.1.4 Alignment Segment 7A

Alignment Segment 7A was proposed as a northern extension of Alignment Segment 7 north of the Talega PC. It was considered as a connector from Alignment 7 to Alignment Segment 12 and would have extended Alignment Segment 7, via Alignment Segment 12, to a direct connector at I-5 just north of the Orange County line. Alignment Segment 7A was not selected because the optimum alignment connected Alignment Segment 7 to Alignment Segment 6C (the southern section of the Central Corridor alignment) northwest of the Rancho Mission Viejo (RMV) Land Conservancy. This modified alignment provided traffic relief similar to Alignment Segment 7A. Excessive slide potential and high slopes were technical constraints to this alignment segment. Impacts to unnamed drainages, CSS habitat and habitat for the coastal California gnatcatcher were avoided by dropping Alternative Segment 7A from further consideration. Therefore, this alignment segment will not be evaluated in the current EIS/SEIR.

5.7.1.5 The Southern Portion of Alignment Segment 8B

The southern portion of Alignment Segment 8B was proposed as a connector between Alignment Segment 8A (Far East Corridor - Complete) and Alignment Segment 8E (Avenida Pico), connecting to I-5 via Avenida Pico. This alignment segment was dropped from consideration because it provided similar traffic relief as Alignment Segment 8C (Far East Corridor - Talega Variation) but impacted a larger area in the RMV Land Conservancy. Therefore, this alignment segment will not be evaluated in the current EIS/SEIR.

5.7.1.6 Alignment Segment 9

Alignment Segment 9 was proposed southeast from I-5 just north of Alignment Segment 4 (Ortega Highway), traversing Alignment Segment 10A (Camino Los Ramblas) and Avenida Vista Hermosa, and intersecting Avenida La Pata. It was not selected because the traffic analysis showed Alignment Segment 9 provided only limited improvement to I-5 and the arterial network and because it lacked a clear connection to the existing Orange County transportation system. Therefore, this alignment segment will not be evaluated in the current EIS/SEIR.

5.7.1.7 Alignment Segment 11

Alignment Segment 11 was proposed as a connector from Alignment Segment 6B (Central Corridor - Complete) at Avenida La Pata to Alignment Segments 8F, 8D or 8H. Alignment Segment 11 was not selected for consideration due to excessive slide potential and high slopes and will not be evaluated in the current EIS/SEIR. An alignment segment similar to Alignment Segment 11 is proposed as the Alignment 7 Far East Corridor Crossover Variation Alternative north of Avenida La Pata, as described in Section 4.0, which will be evaluated in the EIS/SEIR.

5.7.1.8 Alignment Segment 12

Alignment Segment 12 was proposed as a connector from Alignment Segments 7 and 7A south of Avenida Pico to a direct connection at I-5 near the Orange County line. It was not selected for consideration because other alignments provided similar traffic relief to I-5 and the arterial network. Excessive slide potential and high slopes were constraints to this alignment segment. Therefore, this alignment segment will not be evaluated in the current EIS/SEIR. A connector from Alignment Segment 7 to Alignment Segment 6C is considered in the Central Corridor Complete Alternative, described in Section 4.0, which will be evaluated in the current EIS/SEIR.

5.7.1.9 Alignment Segment 14

Alignment Segment 14 was proposed as a parallel alignment west of Alignment Segment 7. Alignment Segment 14 moved southeast from the Alignment Segment 6A (Central Corridor) intersection at Alignment Segment 4 (Ortega Highway) and connected to and followed Alignment Segment 8C (Far East Corridor - Talega Variation) to a direct connection at I-5. Alignment Segment 14 was not selected for consideration because the optimum design and engineering alignment between this Segment and Segment 7 followed Alignment Segment 7. Additionally, unnamed drainages, CSS habitat and habitat for the coastal California gnatcatcher were avoided by dropping Alternative Segment 14 from further consideration. Therefore, this alignment segment will not be evaluated in the current EIS/SEIR.

5.7.2 I-5 ALTERNATIVES CONSIDERED BY THE COLLABORATIVE BUT NOT CARRIED FORWARD

I-5 alternatives were considered by the Collaborative in terms of traffic relief on I-5 and the arterial network, potential improvement configurations and likely physical disturbance to the human and natural environments. The I-5 alternatives considered by the Collaborative but not carried forward for evaluation in the current EIS/SEIR are described below.

5.7.2.1 Widening of I-5 Including Two to Three Reversible High Occupancy Travel Lanes

The reversible High Occupancy Travel (HOT) lanes improvement to I-5 proposed a two to three lane expansion of I-5 with these additional lanes configured to provide HOT travel in the peak direction on I-5 during peak traffic hours. These reversible lanes would have required barrier separation with restricted access points. The reversible HOT lanes concept was evaluated to assess minimizing the widening of I-5 while accommodating peak hour/peak direction traffic demand, encouraging carpooling with free access to HOT lanes, ensuring uncongested travel on a reversible facility through variable pricing for single occupant vehicles, and providing a revenue source to help pay for the widening. Due to design and safety constraints associated with the reversible HOT lanes concept on I-5, including shoulder and merge configurations, access/egress points and tolling facilities, this alternative was dropped by the Collaborative. Therefore, this alternative will not be evaluated in the current EIS/SEIR.

5.7.2.2 Double Decking of I-5

The double decking of I-5 alternative included HOT, HOV or mixed flow lanes above the existing footprint of I-5, thus avoiding impacts to the human and natural environment by increasing the capacity of I-5 without increasing its footprint. Design analysis of this alternative indicated that a single column, cantilever design would have been required if no at grade widening of I-5 was to occur. Due to design and safety constraints, including third level elevation requirements, the need for reversible lanes in an elevated structure, limited access, more complex interchanges, additional width at ingress/egress locations and safety/traffic enforcement concerns, this alternative was dropped by the Collaborative. Therefore, this alternative will not be evaluated in the current EIS/SEIR.

5.7.3 ARTERIAL ALTERNATIVES CONSIDERED BY THE COLLABORATIVE BUT NOT CARRIED FORWARD

Arterial alternatives were considered by the Collaborative in terms of traffic relief on I-5 and the arterial network, potential arterial improvement configurations and likely physical disturbance to sensitive water resources, biological resources and land uses. The arterial improvements alternatives considered by the Collaborative but not carried forward for evaluation in the current EIS/SEIR are described below.

5.7.3.1 Minimum Improvement Arterial Alternative

The Minimum Improvement Alternative proposed critical intersection improvements to an arterial backbone that included improvements to Oso Parkway, Antonio Parkway/Avenida La Pata and Avenida Pico. This Alternative considered smart street intersection improvements to Antonio Parkway at Ortega Highway, Camino Las Ramblas, Avenida Vista Hermosa and Avenida Pico, and included extension of Crown Valley Parkway to Antonio Parkway. This Alternative provided only minimal traffic relief to I-5 and the arterial network. Additionally, the

Crown Valley component of this Alternative impacted environmental resources near Oso Parkway, while providing only minimal traffic relief to I-5 and the arterial network. Therefore, this alternative will not be evaluated in the current EIS/SEIR.

5.7.3.2 Moderate Improvement Arterial Alternative

The Moderate Improvement Alternative proposed the same critical intersection improvements as the Minimum Improvement Alternative and also included Alignment Segment 3 (San Joaquin Extension), widening of the Antonio Parkway to eight lanes between Alignment Segment 3 (San Joaquin Extension) and San Juan Creek Road, and a grade separated intersection at the Ortega Highway and Antonio Parkway intersection. Analysis of the Moderate Improvement Alternative also considered additional smart street intersection improvements at the intersections of Antonio Parkway and Camino Las Ramblas, Avenida Vista Hermosa and Avenida Pico. This Alternative provided only minimal traffic relief to I-5 and the arterial network. The Alignment Segment 3 (San Joaquin Extension) component of this Alternative impacted the human and natural environments between the existing terminus of SR 73 and Antonio Parkway, while providing only minimal traffic relief to I-5 and the arterial network. Therefore, this alternative will not be evaluated in the current EIS/SEIR.

5.7.4 OTHER BUILD ALTERNATIVES CONSIDERED BY THE COLLABORATIVE BUT NOT CARRIED FORWARD

5.7.4.1 Minimum Arterial Improvement Alternative Plus One HOV Lane on I-5

The Minimum Arterial Improvement Alternative Plus One HOV Lane on I-5 included one additional lane on I-5 in each direction for the length of the corridor. Antonio Parkway/Avenida La Pata would be expanded to a six lane smart street from Avenida Pico to Oso Parkway. Smart street intersection treatments were proposed at the intersections of Antonio La Pata and Ortega Highway, Camino Las Ramblas and Avenida Pico between I-5 and La Pata. The Collaborative determined that this Alternative provided only limited traffic relief to I-5 and the arterial network in Orange County and that other alternatives which combined elements of other alternatives provided improved traffic relief relative to this Alternative. Therefore, this alternative will not be evaluated in the current EIS/SEIR.

5.7.4.2 Maximum Arterial Improvement Alternative Plus Extension of SR 73 to Antonio Parkway

The Maximum Arterial Improvement Alternative Plus Alignment Segment 3 (San Joaquin Extension) Alternative proposed one additional lane on I-5 in each direction for the length of the corridor. Antonio Parkway/Avenida La Pata would be an eight lane smart street from San Juan Creek Road and Avenida Pico. Smart street intersection treatments were proposed at the intersections of Antonio/La Pata and Ortega Highway, Camino Las Ramblas and Avenida Pico between I-5 and Avenida La Pata. SR 73 (Alignment 3 - San Joaquin Extension) would be extended to Antonio Parkway, north of Ortega Highway. The Collaborative determined that this Alternative provided only limited traffic relief to I-5 and the arterial network in Orange County and that other alternatives which combined elements of other alternatives provided improved traffic relief. Therefore, this alternative will not be evaluated in the current EIS/SEIR.

5.7.4.3 Minimum Arterial Improvement Alternative Plus Mixed Flow on I-5

The Minimum Arterial Improvement Alternative Plus Mixed Flow on I-5 Alternative proposed one additional lane on I-5 in each direction for the length of the corridor. Antonio Parkway/Avenida La Pata would be a six lane smart street from Avenida Pico to Oso Parkway. Smart street intersection treatments were proposed at the intersections of Antonio/La Pata and Ortega Highway, Camino Las Ramblas and Avenida Pico between I-5 and Avenida La Pata. Additional mixed flow lanes were proposed on I-5 from the Orange County/San Diego County line to I-405, for a total of five continuous mixed flow lanes on this segment of I-5. The Collaborative determined that this Alternative provided only limited traffic relief to I-5 and the arterial network in Orange County and that other alternatives which combined elements of other alternatives provided improved traffic relief. Therefore, this alternative will not be evaluated in the current EIS/SEIR.

5.7.5 MASS TRANSIT ALTERNATIVE CONSIDERED BY THE COLLABORATIVE BUT NOT CARRIED FORWARD

SCAG and the OCTA provided the Collaborative with a review of OCTA's Fast Forward program, which included the planned improvements to transit systems in Orange County including Metrolink commuter rail service and local and express bus service. During discussions of whether a transit only alternative would be a reasonable alternative to the proposed SOCTIIP, the Collaborative considered existing planning for transit improvements by the OCTA, the nature of the existing traffic system in Orange County and OCTA's analysis of future traffic patterns and travel mode choices by Orange County drivers. The Collaborative determined that a transit only alternative to the proposed SOCTIIP was not reasonable at this time. Therefore, a transit only alternative will not be evaluated in the current EIS/SEIR. The alternatives assessed in the EIS/SEIR assume existing and planned transit improvements in south Orange County.

5.8 TOLLED ARTERIAL ALTERNATIVE

As part of the SOCTIIP Collaborative process, it was suggested that the TCA evaluate an alternative which implemented tolls on arterials in the SOCTIIP area, essentially converting some arterial segments to tolled facilities. The intent was to assess whether tolling arterials was feasible and, if feasible, whether tolling arterials would maximize the capacity of the arterial system and provide increased system capacity while using existing road facilities. In early 2001, the TCA conducted an analysis to consider how arterials could be converted to toll facilities and the potential implications of this type of change to the circulation system, as described in the following sections.

5.8.1 ACCESS REQUIREMENTS AND CONSTRAINTS

5.8.1.1 Arterials

Arterials are classified as roads with uncontrolled access. This is defined as at-grade intersections with intersecting arterials and local roads, and access (driveways) provided to adjacent properties. Access is controlled only by local regulations with regard to site conditions, road geometrics, safety standards and traffic volumes. Arterials provide pedestrian access for crossing these facilities. Some arterials include in road bicycle and equestrian trails. Arterials serve local traffic, allowing for short and multiple trips in localized areas.

5.8.1.2 Freeways

Freeways are access controlled. Access controlled facilities limit and control how and when motorists can enter and exit the facility. Access is provided at on and off ramps and is not generally provided directly to adjacent properties. Intersection arterials are grade separated, below or above the access controlled freeway. The frequency of on and off ramps is determined by demand and the geometrics of the freeway and the intersecting roads. Access controlled facilities do not provide pedestrian or equestrian access and rarely provide bicycle access. These facilities give preference to through traffic and allow large volumes of traffic to travel without stopping. Freeways predominately serve regional traffic and some subregional traffic, specifically longer range through trips.

5.8.1.3 Toll Facilities

Toll facilities are access controlled facilities which include bridges, highways and parking facilities. For a successful toll facility, access must be controlled. Toll collection points are necessary at strategic locations through which all users must pass so tolls can be collected. Limited ingress and egress points on a toll facility ensure that tolls can be collected. If access is unlimited, drivers can divert around toll collection facilities to avoid paying the toll. For example, if a mainline toll collection facility is placed between two commercial center driveways or two uncontrolled access arterials, a motorist could use driveways or arterials to divert around the toll collection point.

To operate a functional toll facility, in the absence of controlled access, it would be necessary to place toll collection facilities at every intersecting arterial and access point (driveways). Otherwise, users could easily circumvent toll collection points. Toll collection on arterials would degrade the operations of the arterial facilities, likely to unacceptable levels of service (LOS), because numerous toll collection points would be required. Motorists would have to stop at each toll facility and pay a toll. The queue of motorists waiting to pay tolls would likely extend onto adjacent arterials which would adversely affect through movements on those intersecting arterials. In addition, a tolled arterial scenario would potentially result in a substantial number of drivers using alternative non-tolled arterials or local streets. This would result in increased use on those facilities, potentially beyond their capacities, resulting in increased congestion on those non-tolled facilities and potentially increasing safety hazards on those local streets.

5.8.2 FOOTPRINT LIMITS AND RIGHT-OF-WAY REQUREMENTS FOR A TOLLED ARTERIAL FACILITY

To accommodate toll collection facilities at all the necessary intersecting/access points, additional right-of-way beyond that necessary for the arterial road itself would be required. The toll collection method (cash and/or automatic collection system) will affect the footprint requirements for the toll collection facilities. The footprint requirements for toll collection facilities would result in increased right-of-way needs and increased environmental impacts, beyond the right-of-way and impacts anticipated for the arterial facilities themselves. Because of the increased footprint and increased right-of-way needs, the overall cost of design, construction, implementation and operation for tolled arterials would be substantially greater than for untolled arterials.

Many arterials cross multiple jurisdictions, sometimes within very short distances. In some cases, jurisdictional boundaries are within or immediately adjacent to the right-of-way for an arterial. As a result, right-of-way relationships for arterials can be very complicated. Tolling those arterials would further complicate the relationships regarding ownership and maintenance of those arterial roads.

5.8.3 ABILITY TO CONVERT FREE FACILITIES TO TOLL FACILITIES

The implementation of toll transportation facilities would not be expected to be allowed to eliminate or compromise existing free alternative routes. As a result, it is very unlikely that existing arterial facilities open to the public could be reassigned for tolled use without the provision of free equivalent travel options. To convert an existing arterial to a toll facility, it is likely that a toll free parallel route would have to be provided. Although legislation could be sought to provide for a tolled arterial without the provision of a free parallel route, the process for legislation is difficult and time consuming and there is no assurance that the desired legislation would be passed and that it would prevail in the case of a legal challenge.

Based on these likely constraints, there are limited options for tolling arterials in the SOCTIIP area because most the MPAH arterials are currently implemented although not all are build out to their ultimate cross sections at this time.

5.8.4 FEASIBILITY OF A TOLLED ARTERIAL ALTERNATIVE

Research conducted by the TCA in spring 2001 indicates that tolls have not been implemented on an uncontrolled access facility such as an arterial anywhere in the United States to date.

Based on the access, right-of-way and potential legal issues describe above, a tolled arterial alternative does not appear to be a feasible alternative for transportation improvements in the SOCTIIP area. Tolling arterials would be costly and would substantially compromise the LOSs that could be achieved on those arterials if they were not tolled. The degradation of the LOS on the tolled arterials could result in traffic diverting to alternative routes and increased congestion on those routes. Further, tolling arterials would result in substantial adverse impacts on adjacent land uses dependent on the arterials for their access. Based on these reasons, a tolled arterial alternative was not considered for detailed analysis in the current EIS/SEIR.

FIGURE 5.2-1
VARIATIONS (CW, CX, CY AND CZ) CONSIDERED FOR THE SOUTHERN TERMINUS OF THE FAR EAST ALIGNMENT

[one page; 8.5/11]

FIGURE 5.2-2
SPLIT PROFILE CROSS SECTION

[one page; 8.5/11]

FIGURE 5.3-1
PRIMARY ALTERNATIVES SELECTED DURING THE 1986 SCOPING PROCESS

[one page; 8.5/11]

FIGURE 5.5.1
CONCEPTUAL ALTERNATIVE ROUTES ON THE SOUTHERN TERMINUS
[one page; 8.5/11]

FIGURE 5.7-1
ALIGNMENTS CONSIDERED BY THE COLLABORATIVE

[one page; 8.5/11]

SECTION 6.0
LIST OF PREPARERS

6.1 TRANSPORTATION CORRIDOR AGENCIES

James D. Brown, P.E.	Director of Engineering and Planning, BS in Geology, over 26 years experience planning, organizing and supervising the environmental, engineering and right-of-functions for public works projects.
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Peter Ciesla	Project Manager, BS in Accounting, MBA, Land Use and Environmental Planning Certification, 10 years experience in environmental, land use and transportation planning.

6.2 P&D CONSULTANTS

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Romi Archer	Environmental Planner, BA in Urban Land Use, 11 years experience in environmental documentation.

6.3 AUSTIN-FOUST ASSOCIATES

Terry Austin	Principal-in-Charge, BE in Civil Engineering, MS in Transportation, BS in Mathematics, MBA in Administration. Over 30 years experience in all aspects of transportation planning.
Kendall Elmer	Project Manager, BS in Civil Engineering. Over 18 years experience in Transportation Planning.

SECTION 7.0
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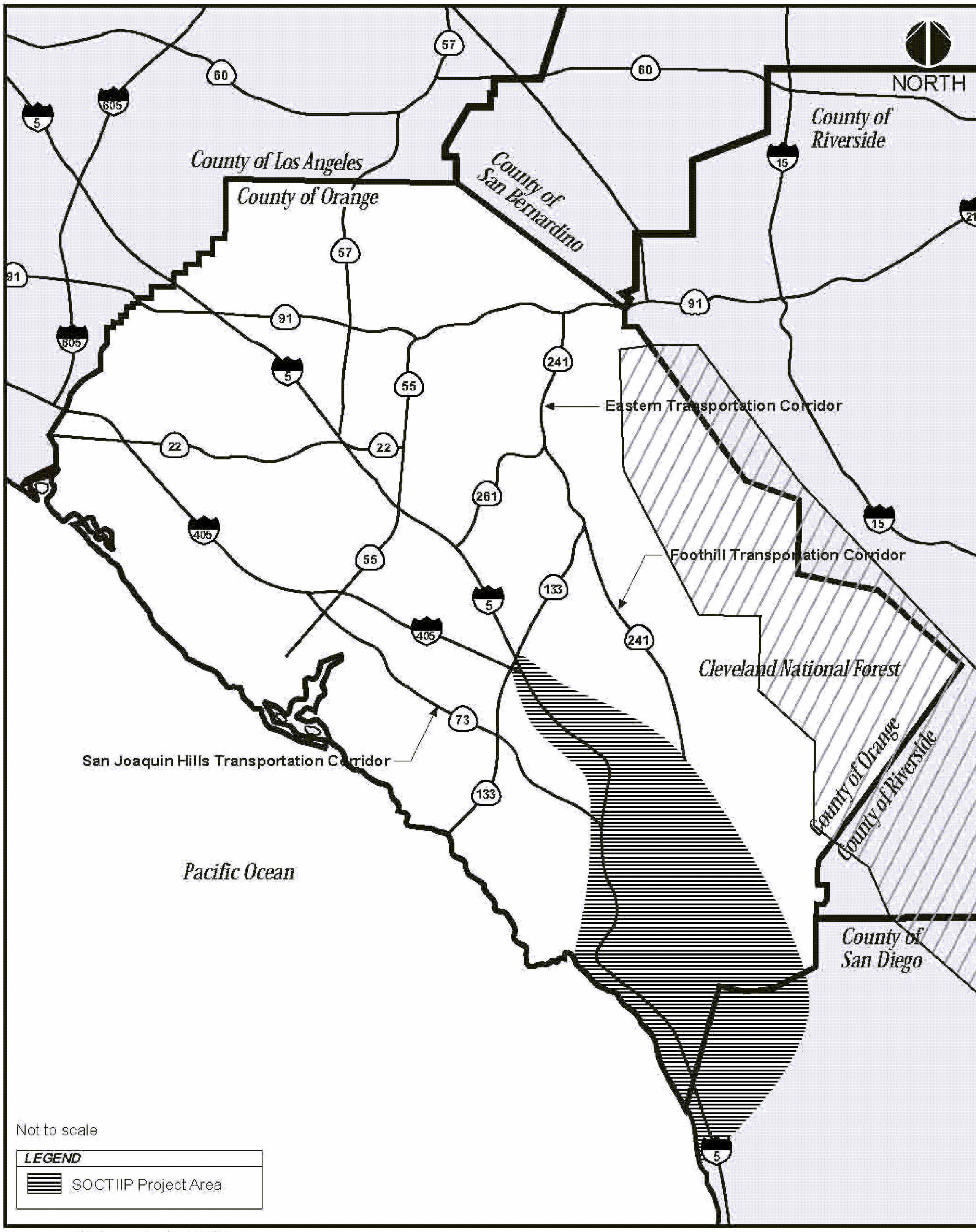

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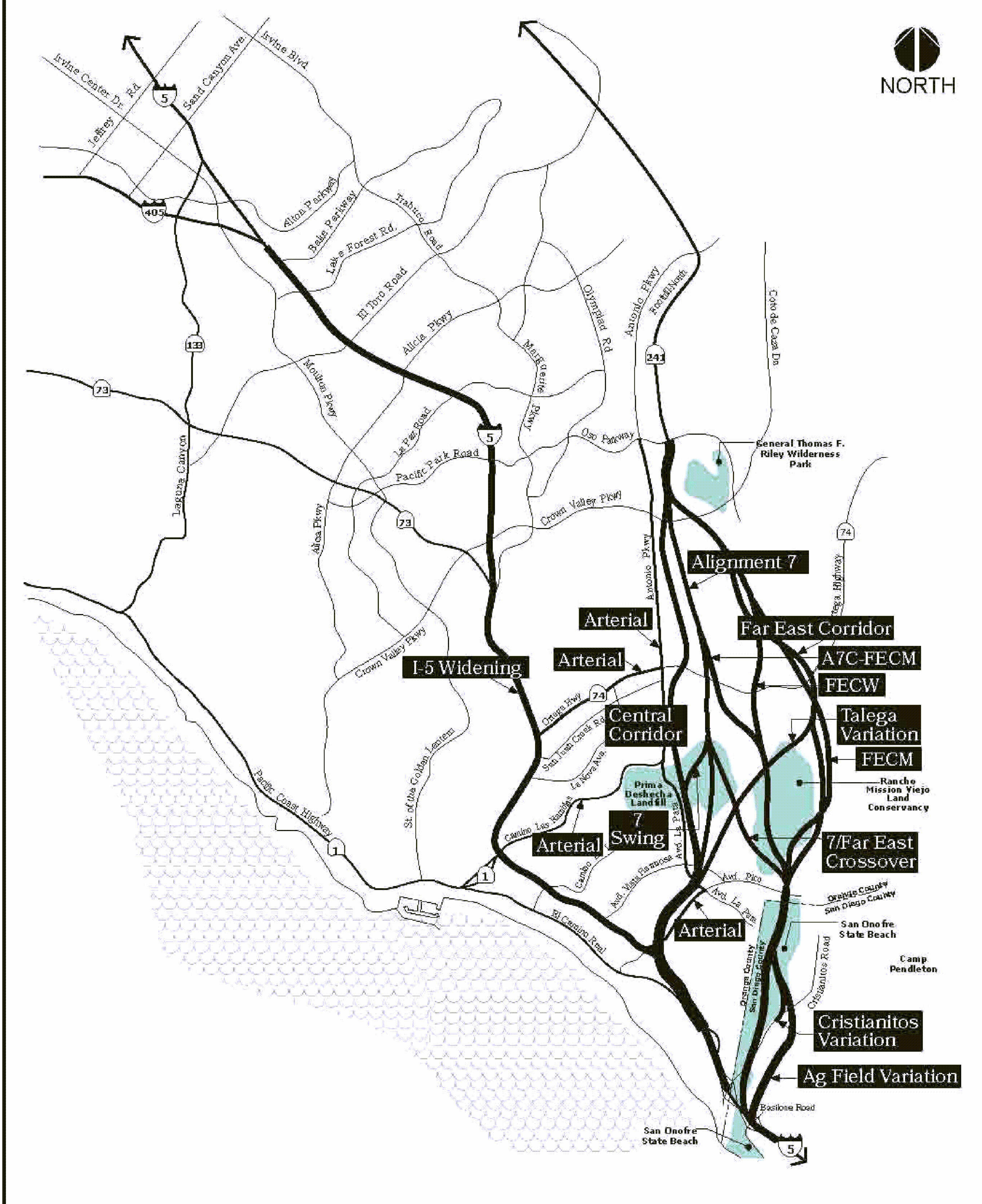
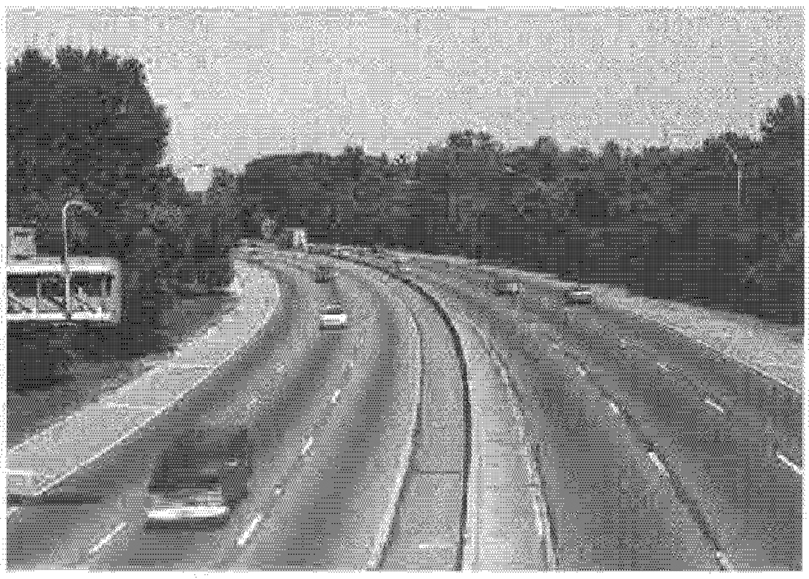


~~Not to Scale~~
Source: P&D Consultants (2002).

Alignments of the Build Alternatives



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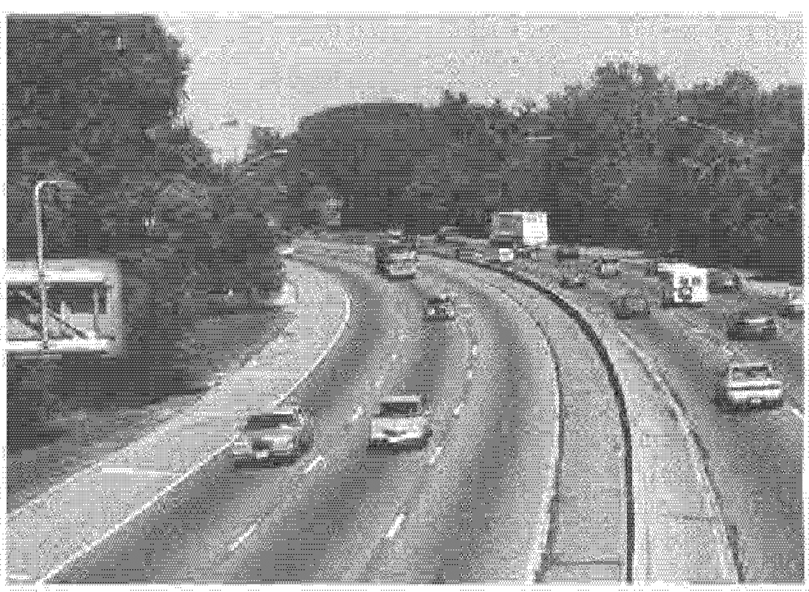

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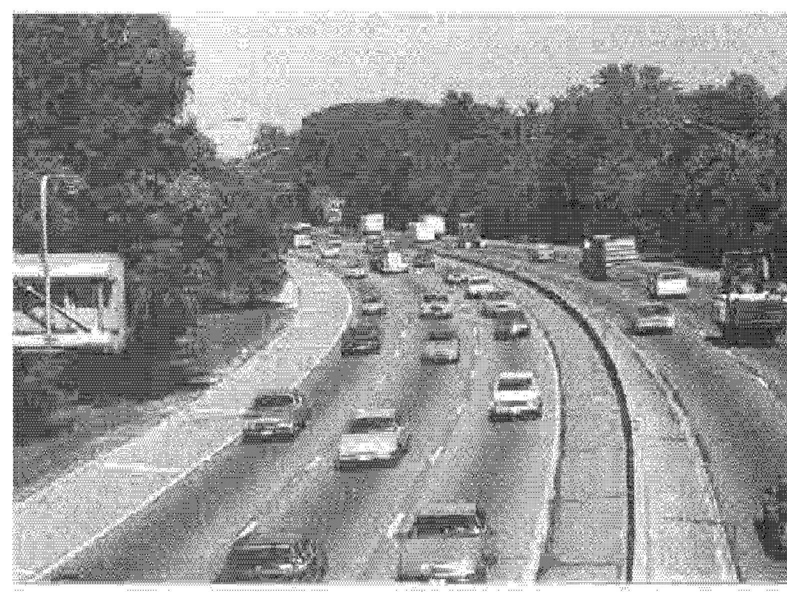
Level of Service C

Level of Service D



Level of Service E

Level of Service F

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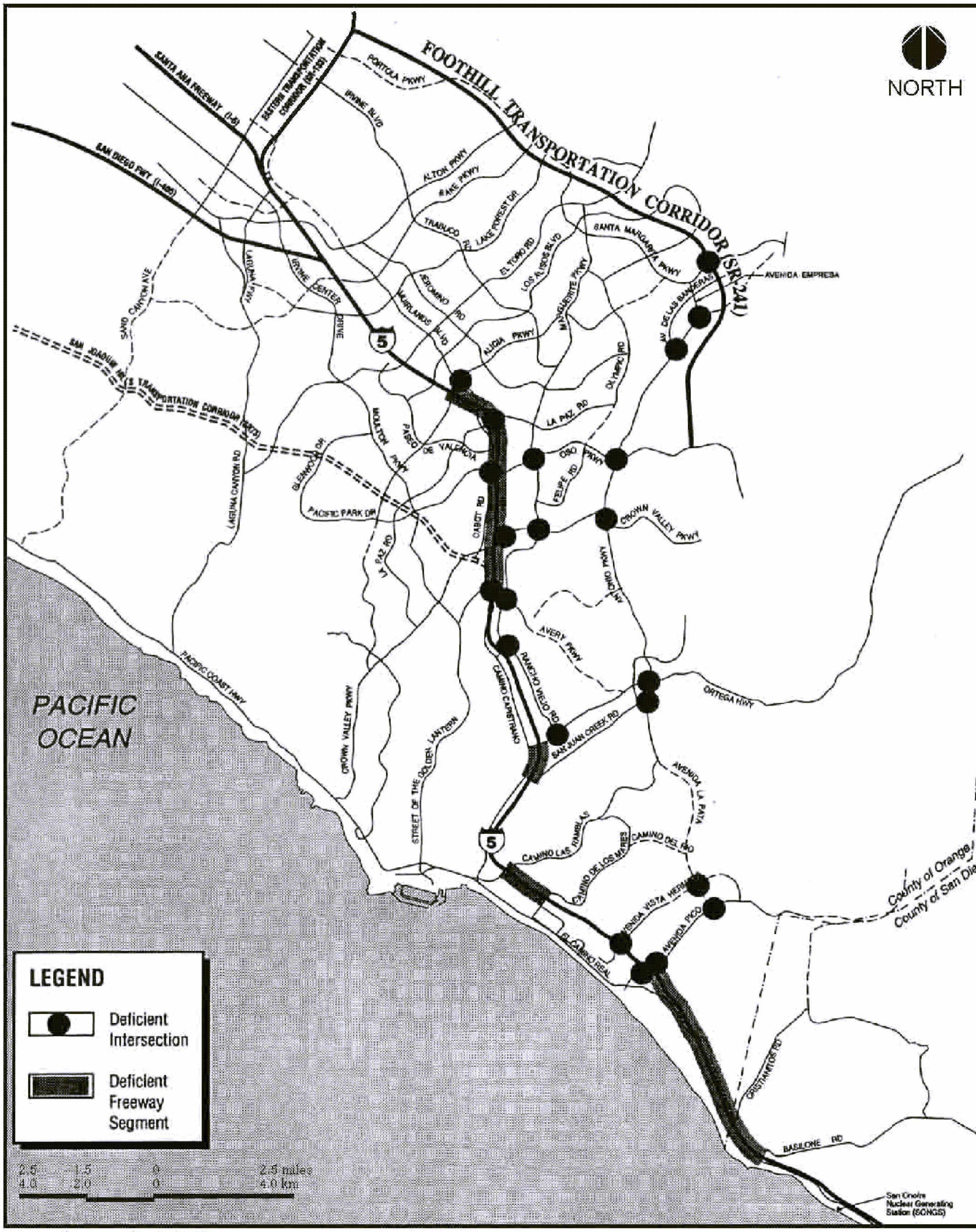
Level of Service Represention



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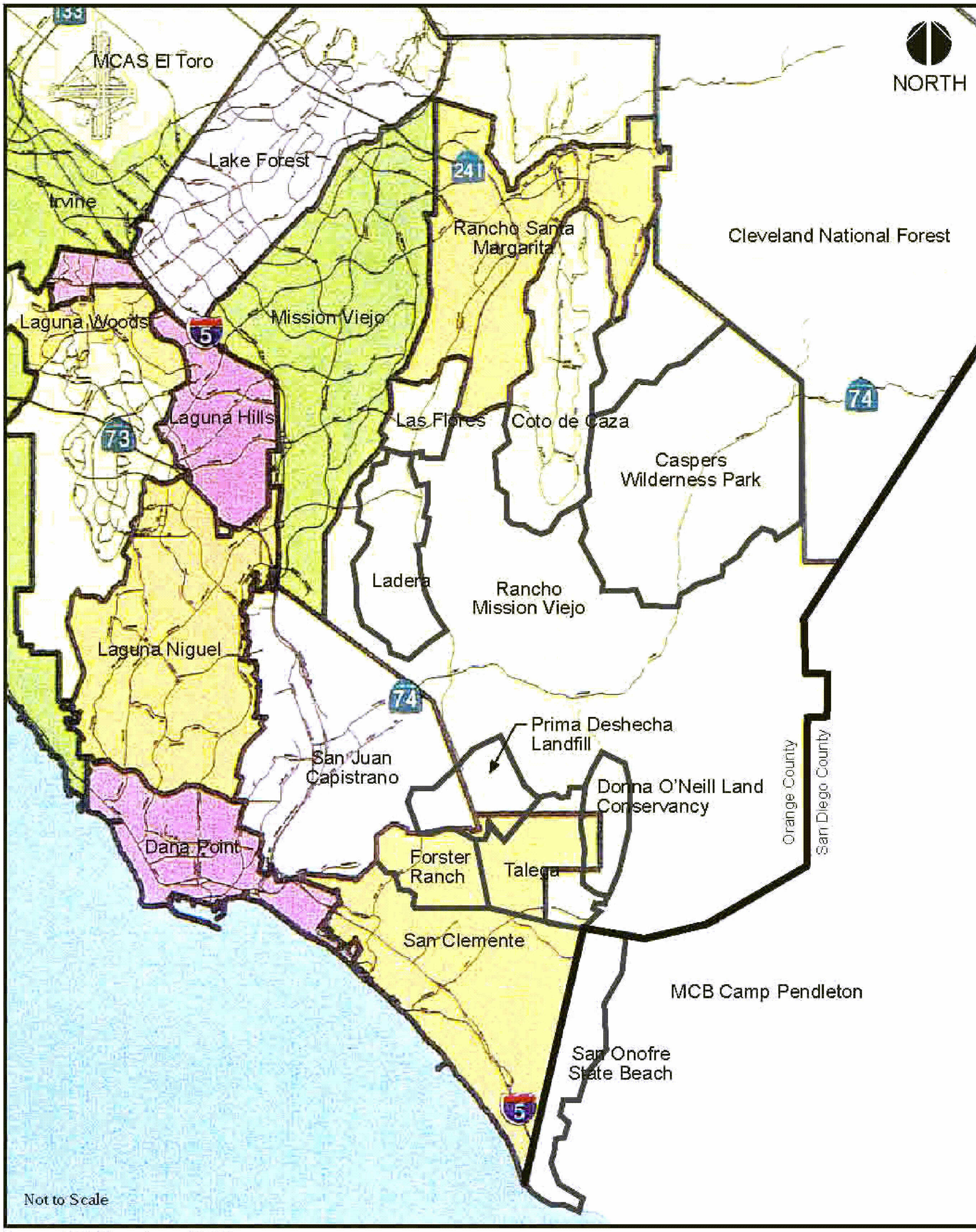

Source: P&D Consultants (2001).

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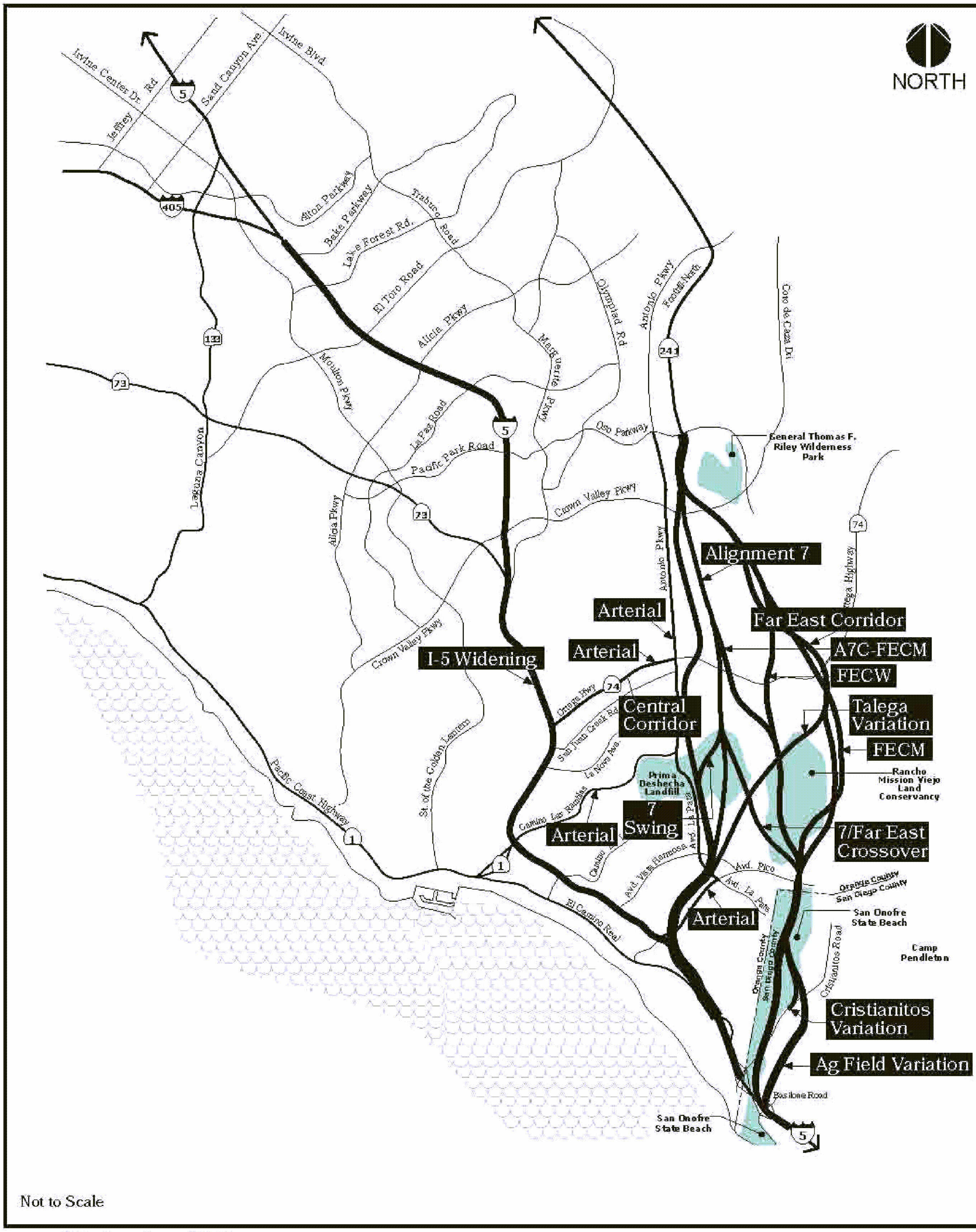
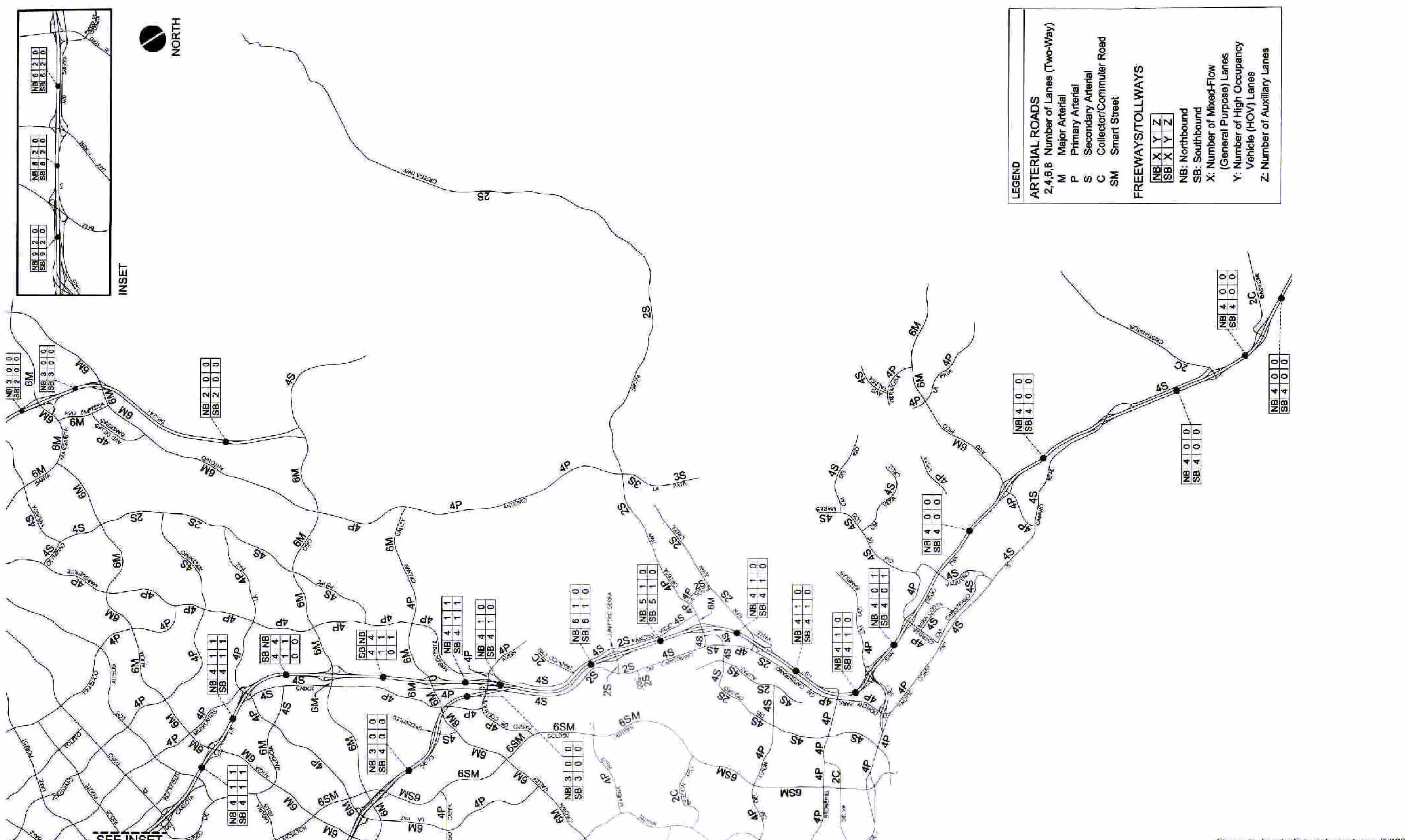


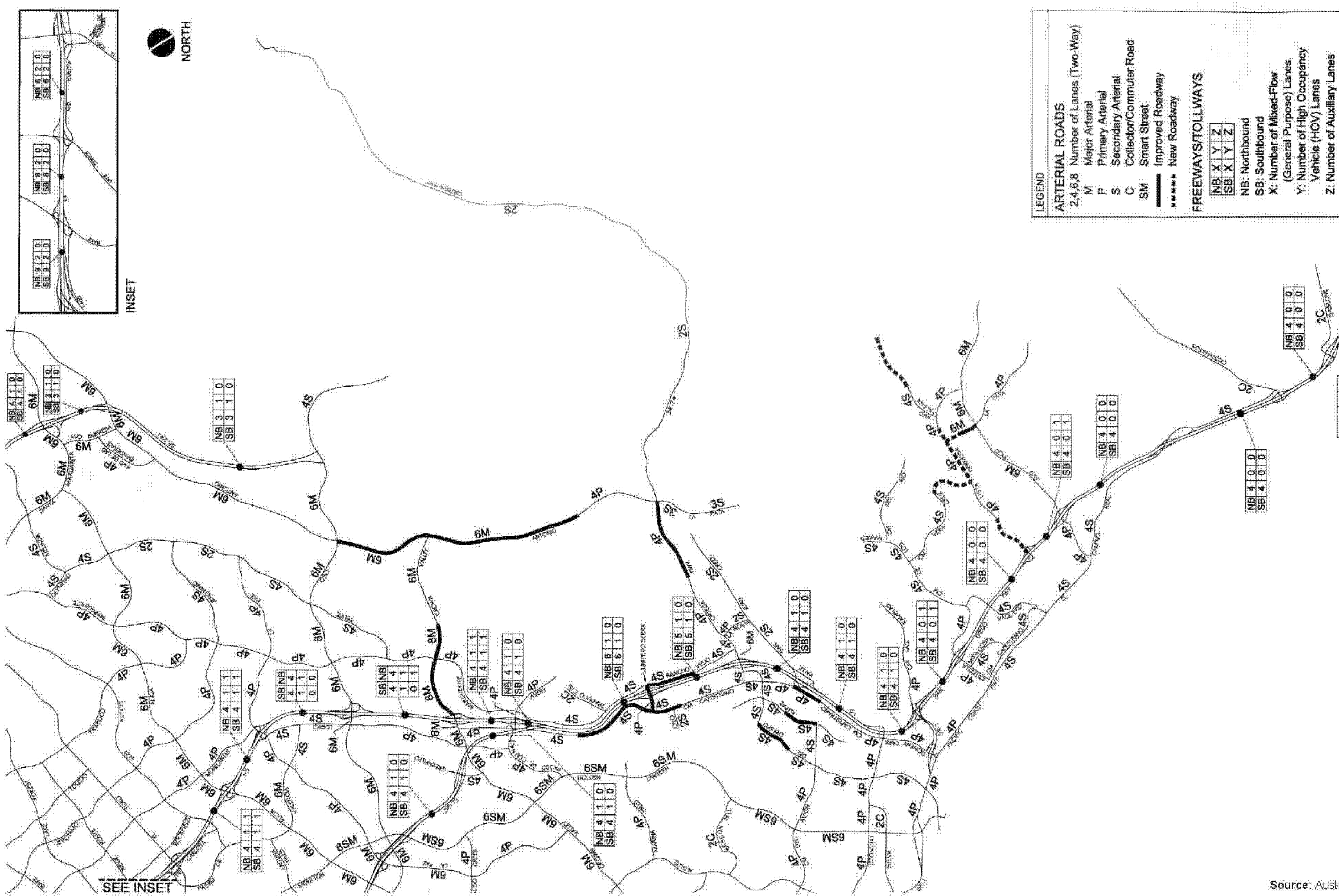
Source: P&D Consultants (2003).

Alignments of the Build Alternatives



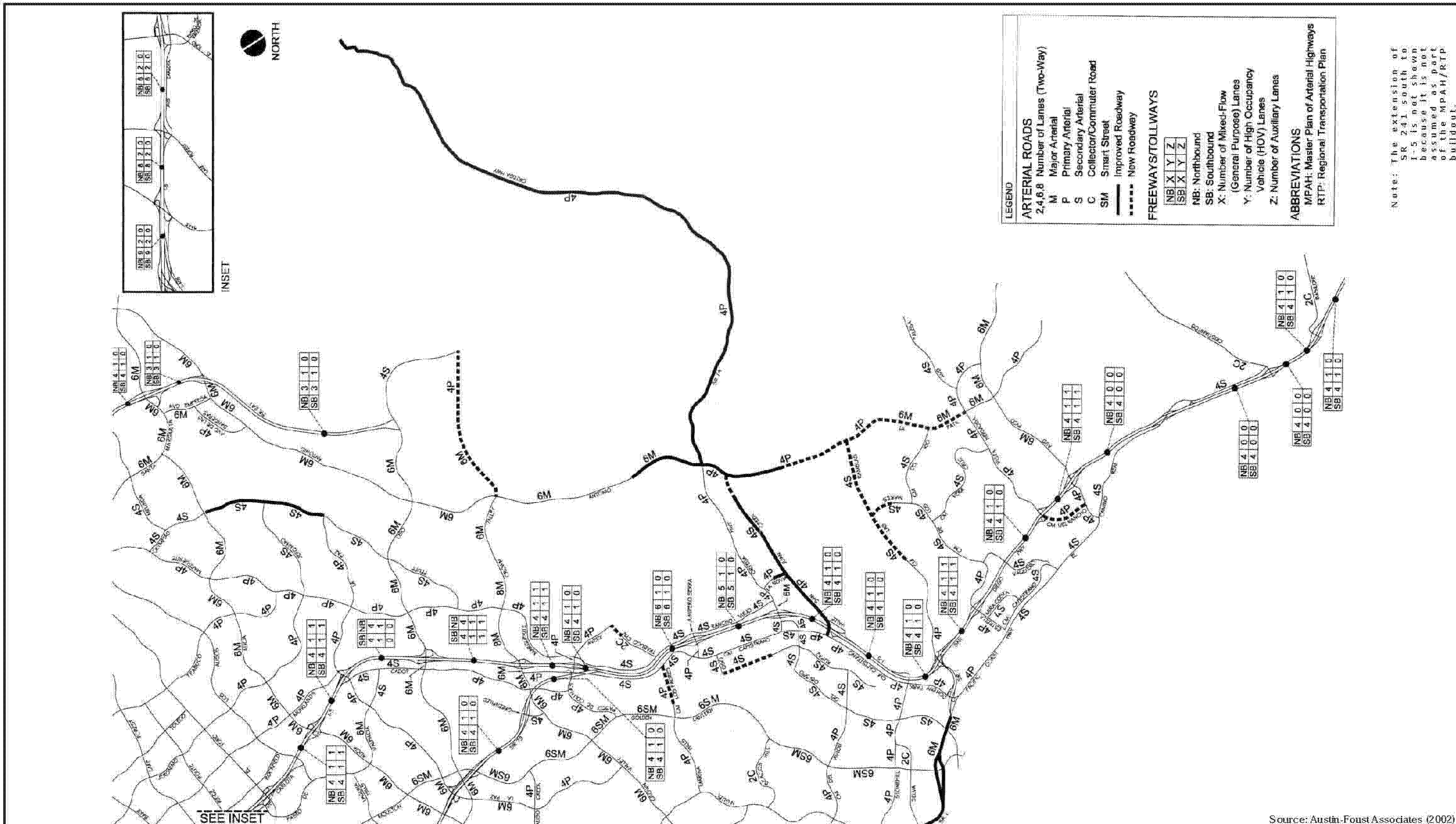
Source: Austin-Foust Associates (2002).

Existing Circulation System



Source: Austin-Foust Associates (2002)

Committed Circulation System



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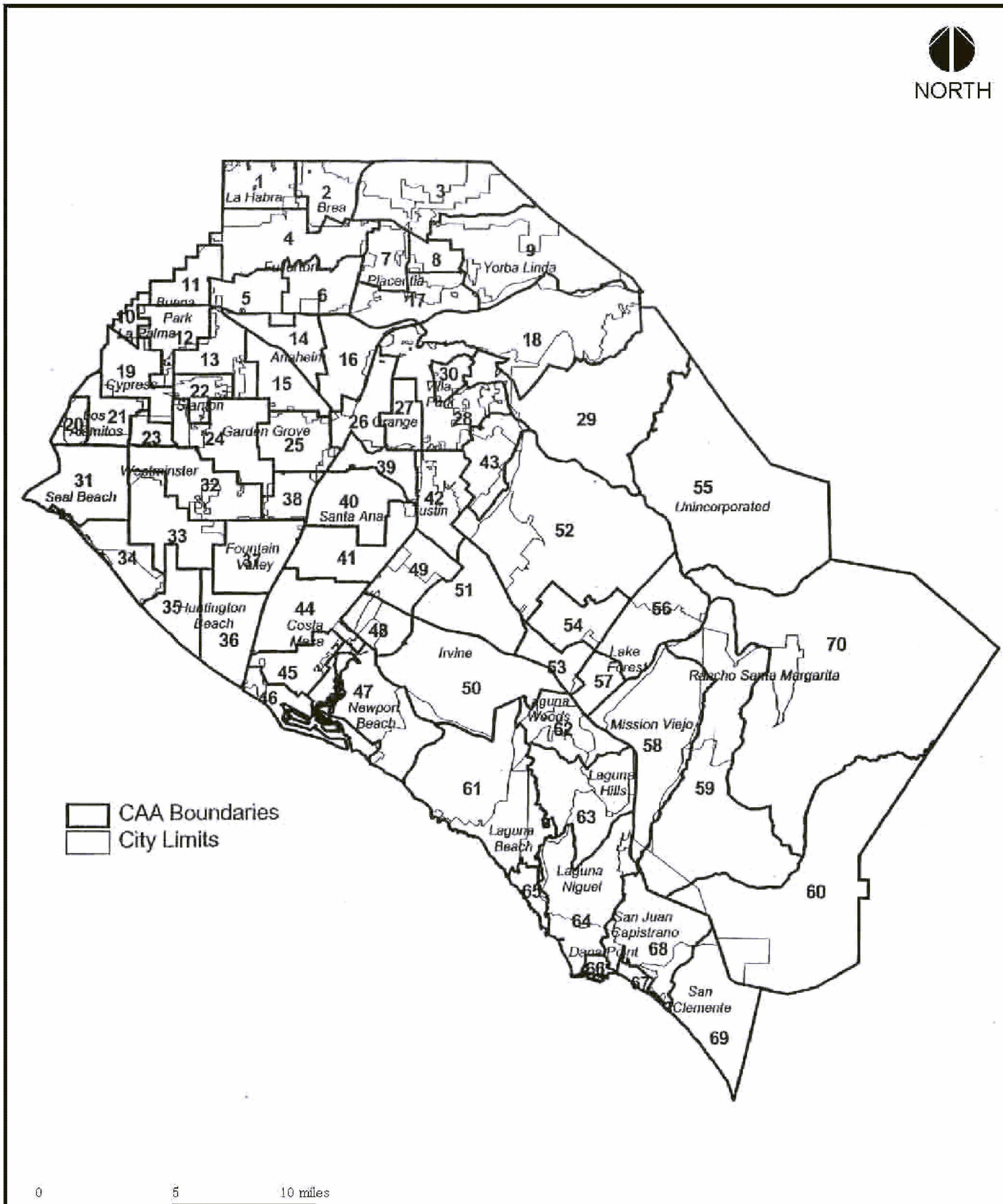
MPAH/RTP Buildout Circulation System



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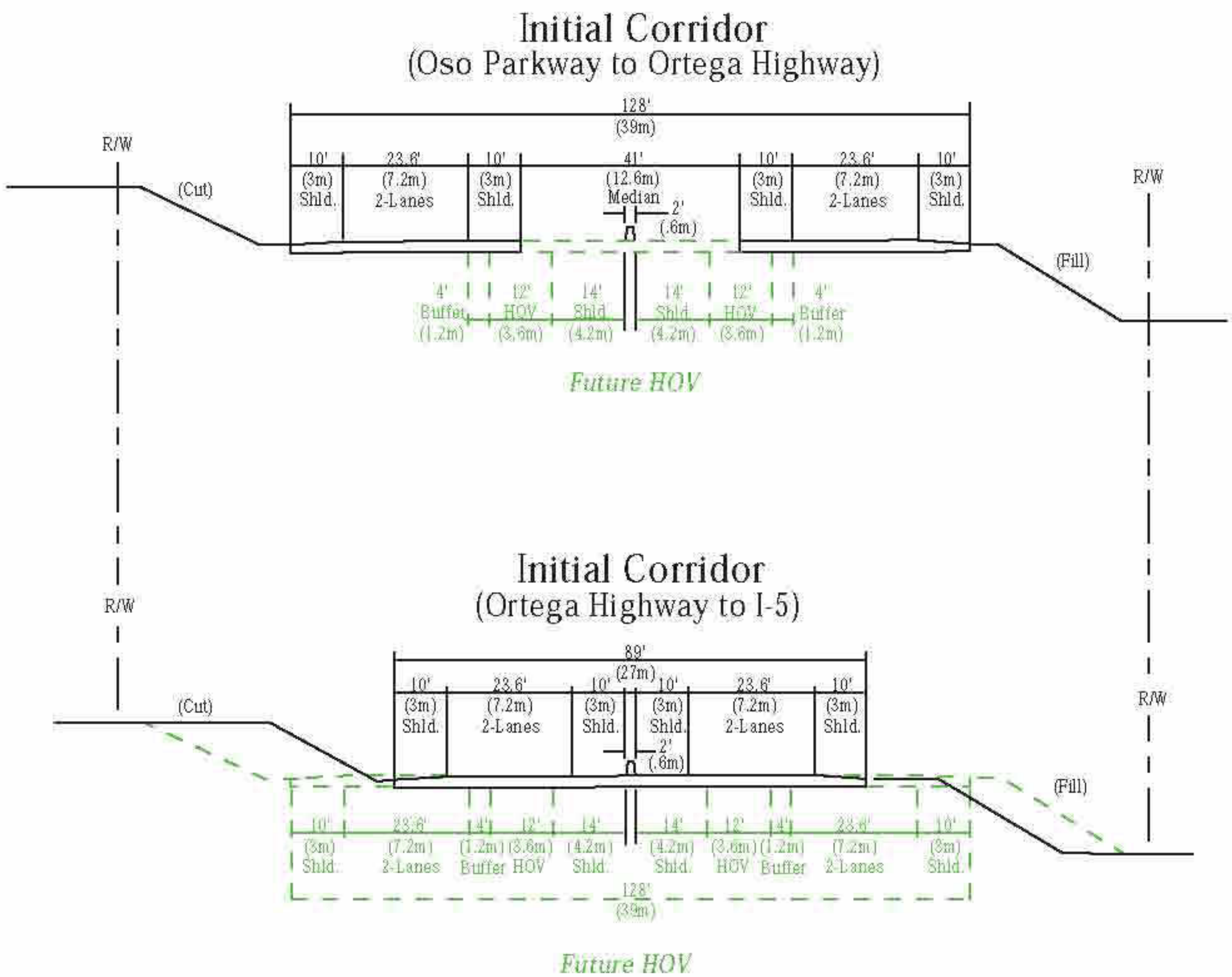
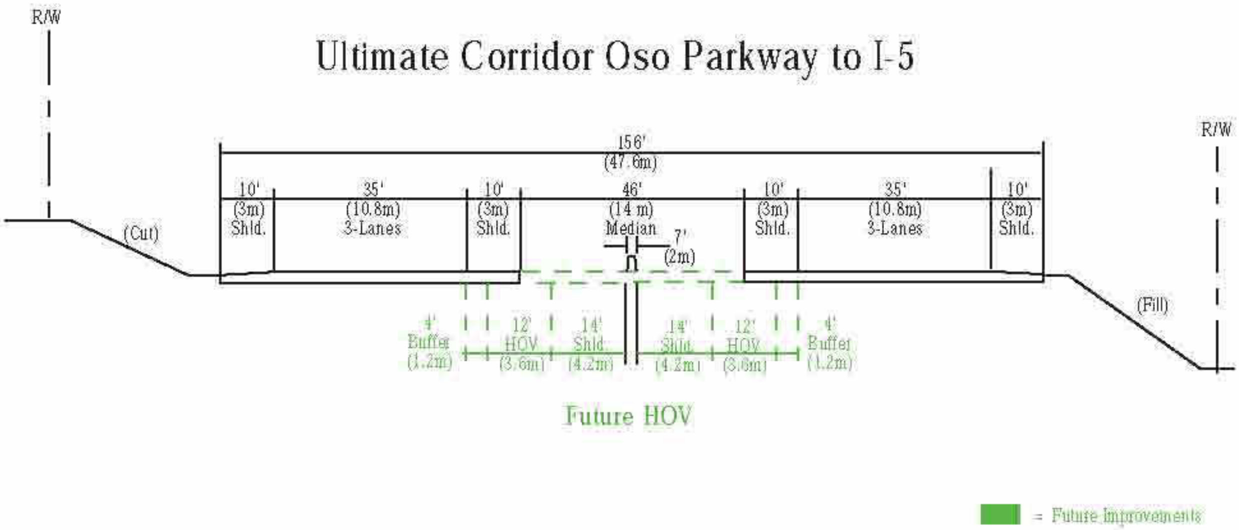


Source: CDMG (2002).

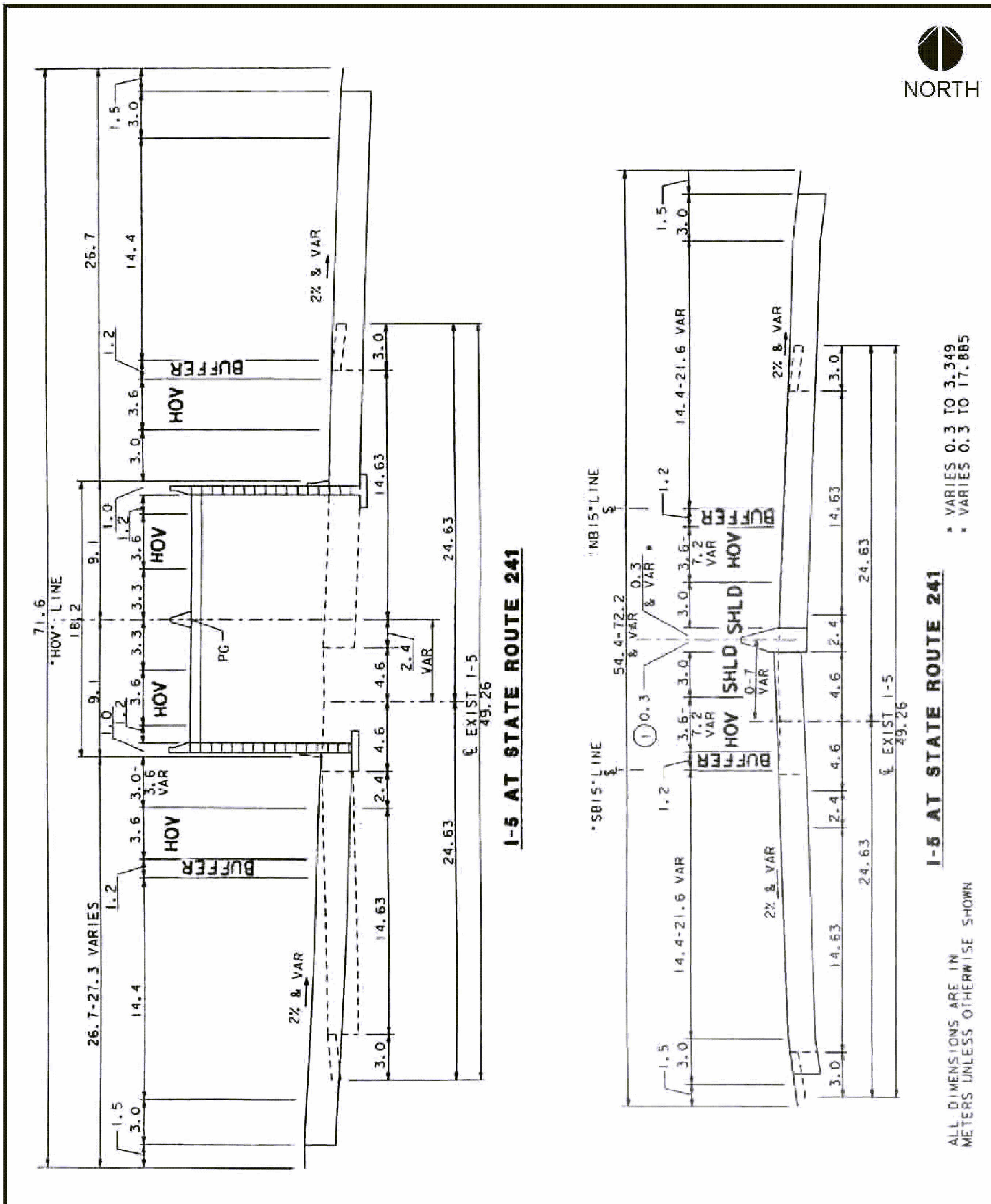
Typical Corridor Cross Sections

Figure 4.2-1



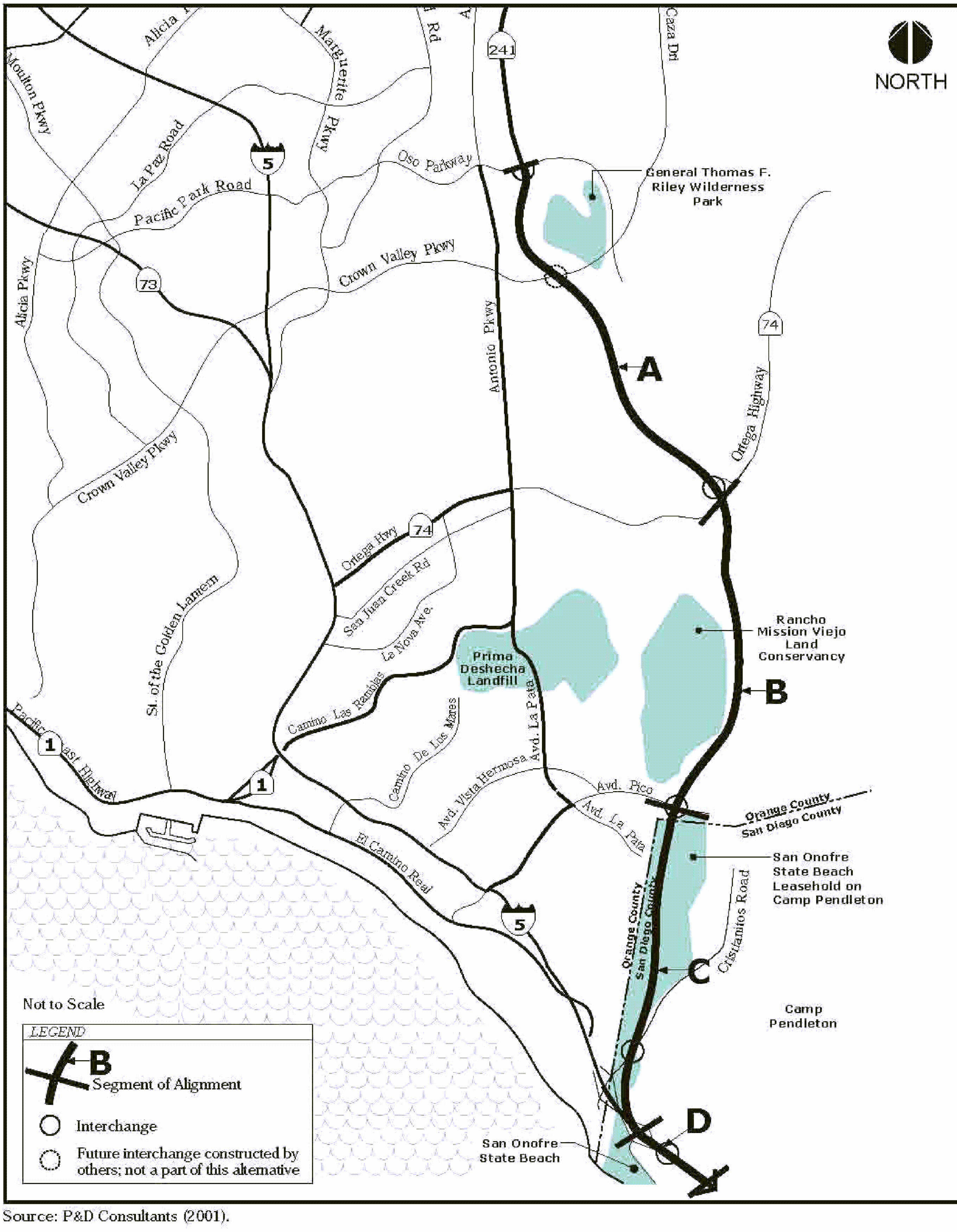
Source: CDMG (2002).

Typical Corridor Cross Sections



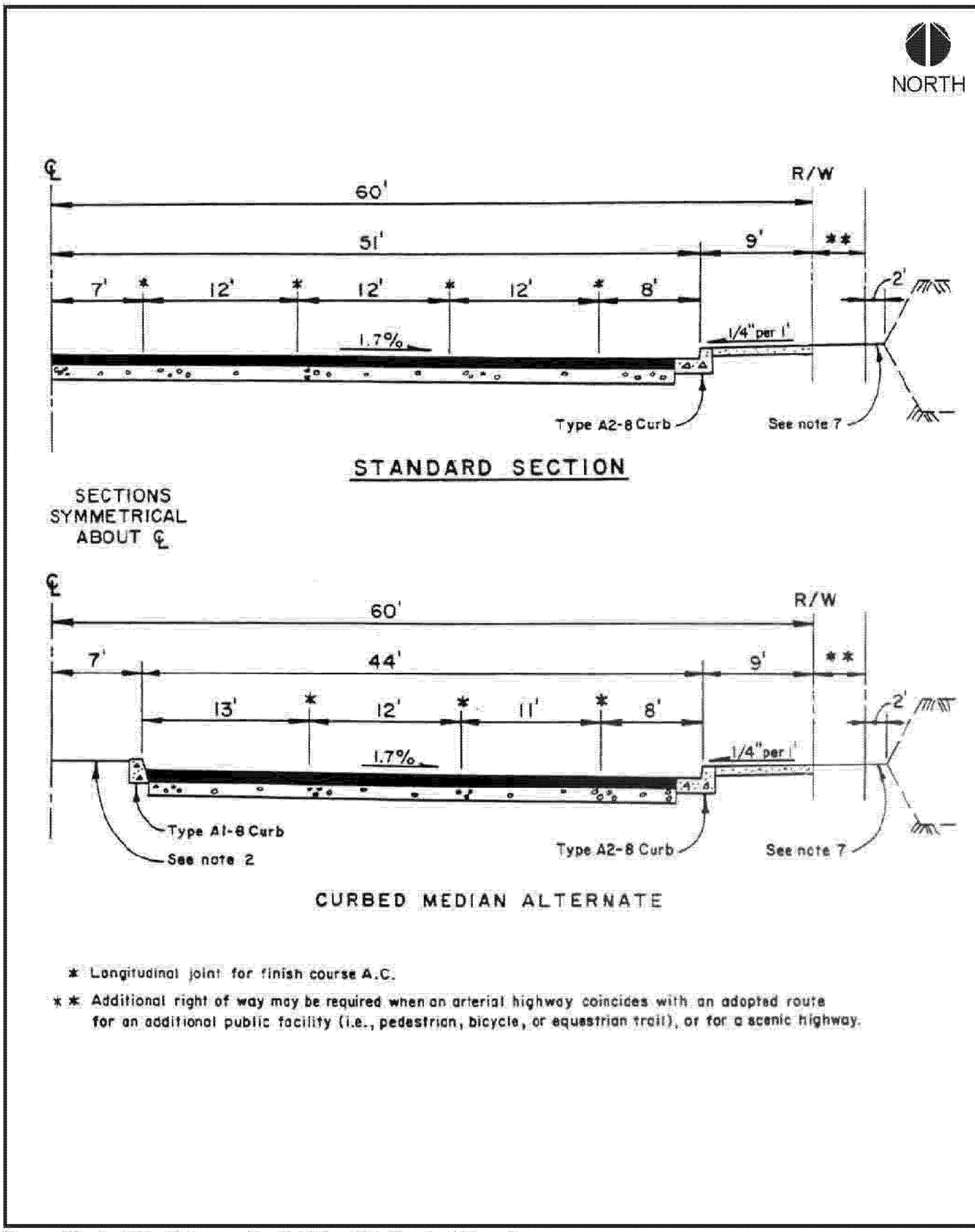
Source: CDMG (2003).

Typical Cross Section for I-5 Improvements Under the Corridor Alternatives



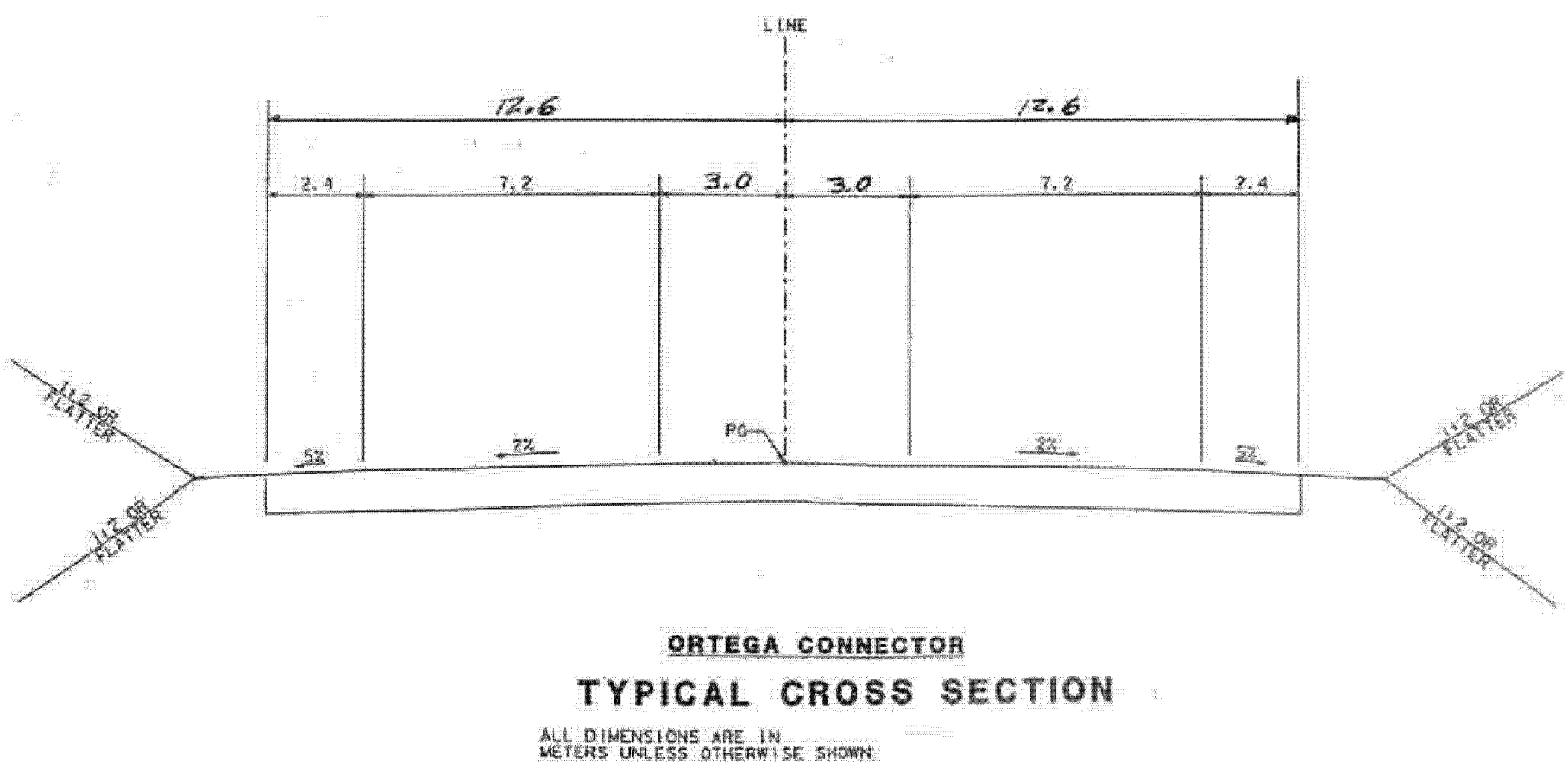
Source: P&D Consultants (2001).

Alignment of the Far East Corridor-Complete Alternatives



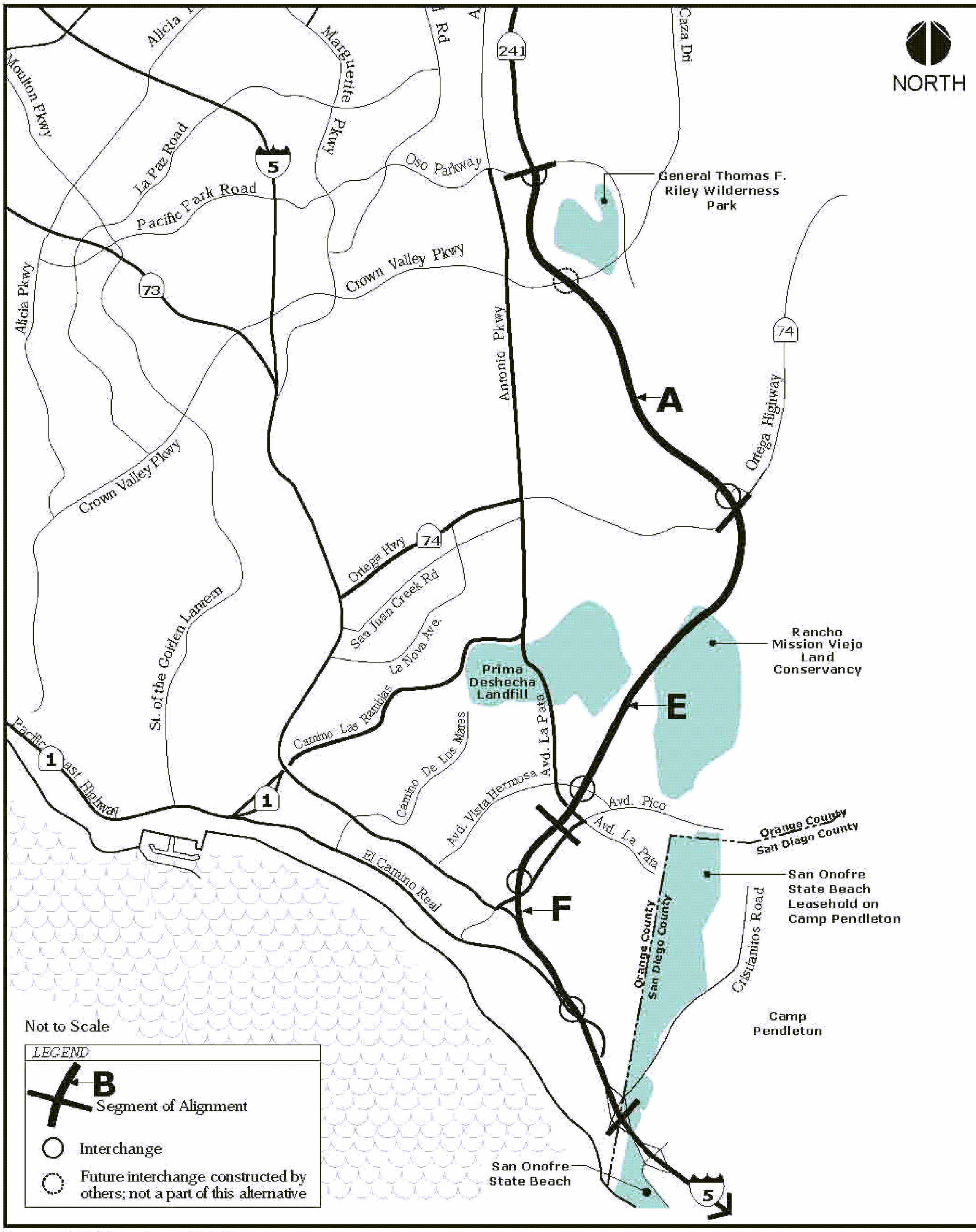
Source: Standard Plan Reference, Standard Plan 1101 (County of Orange).

Typical Cross Section for a Six Lane Major Arterial



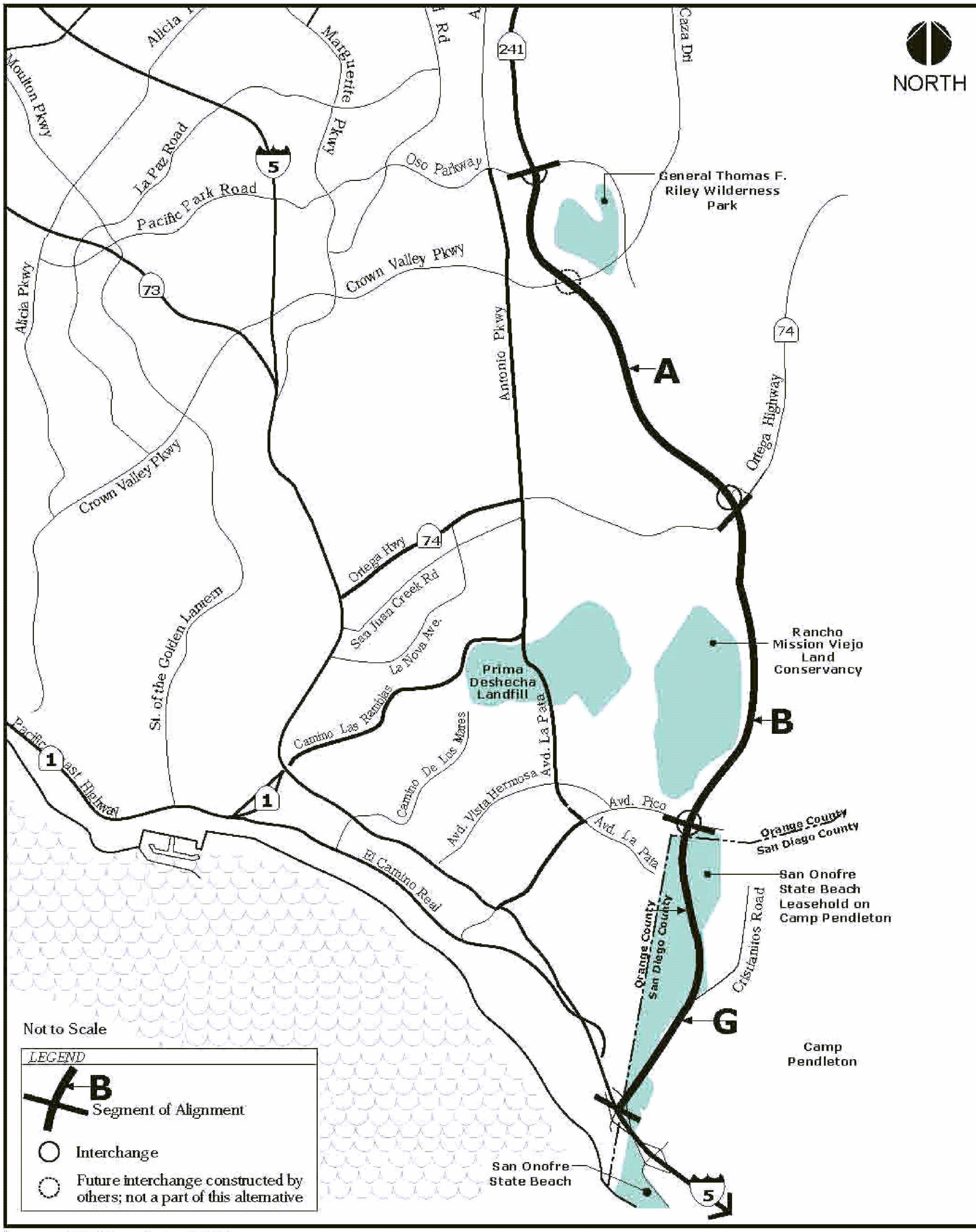
Source: CDMG (2003).

Typical Cross Section for the Ortega Highway and A7C Connector Roads



Source: P&D Consultants (2001).

Alignment of the Far East Corridor - Talega Variation Alternatives



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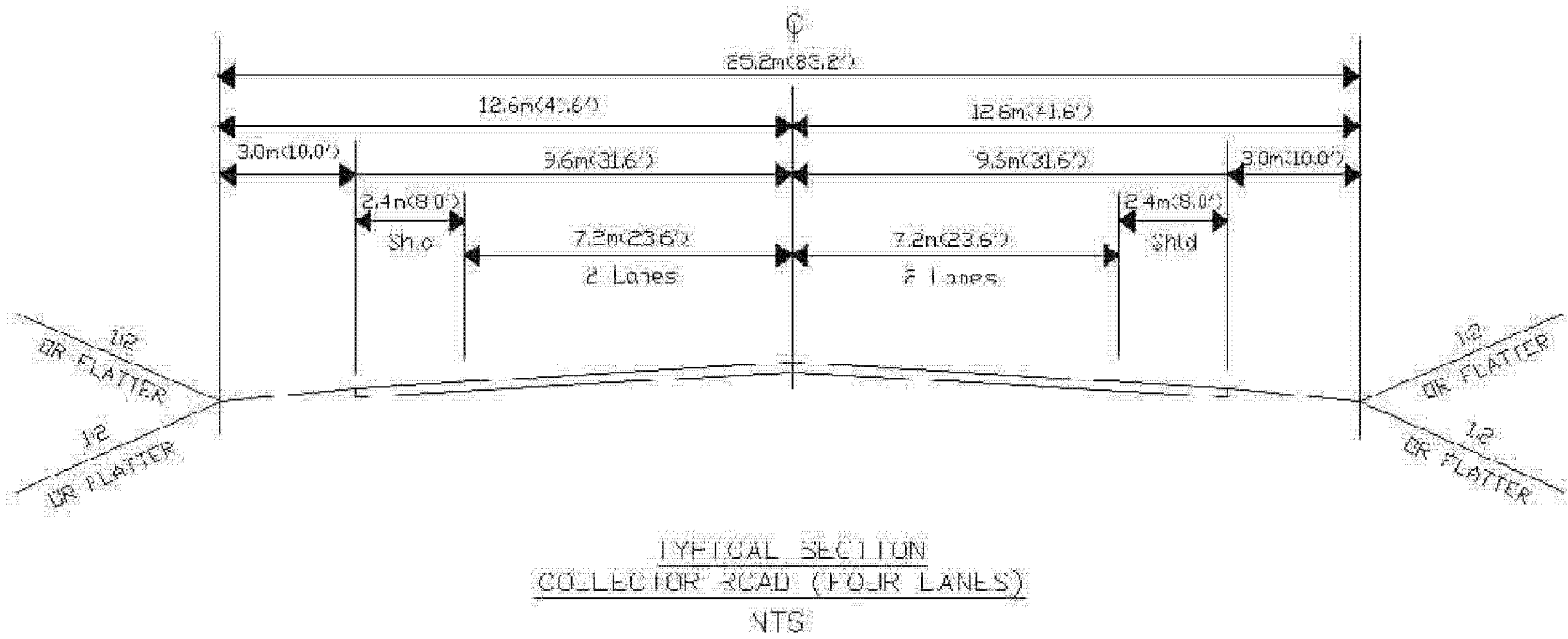
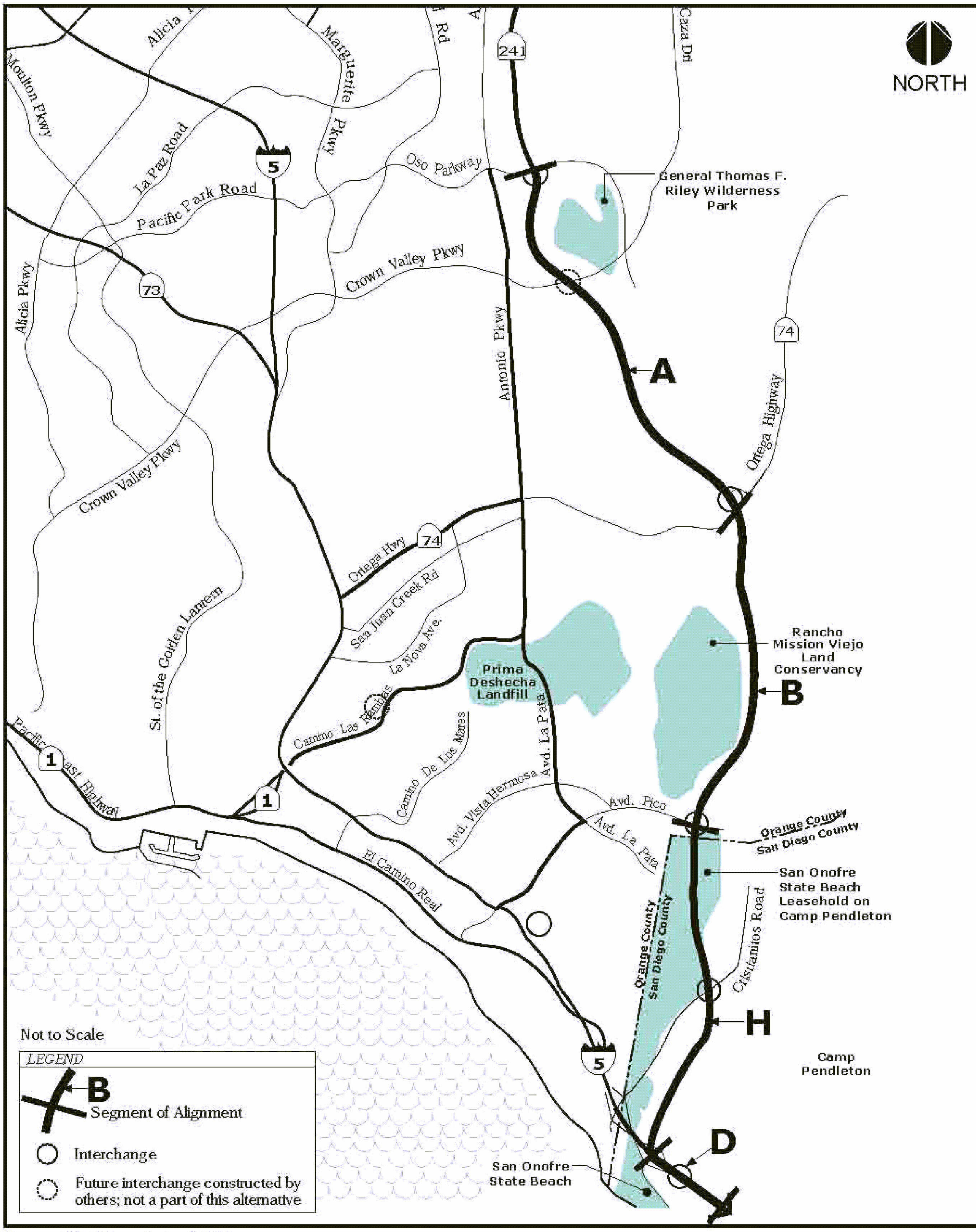
Alignment of the Far East Corridor - Cristianitos Variation Alternatives



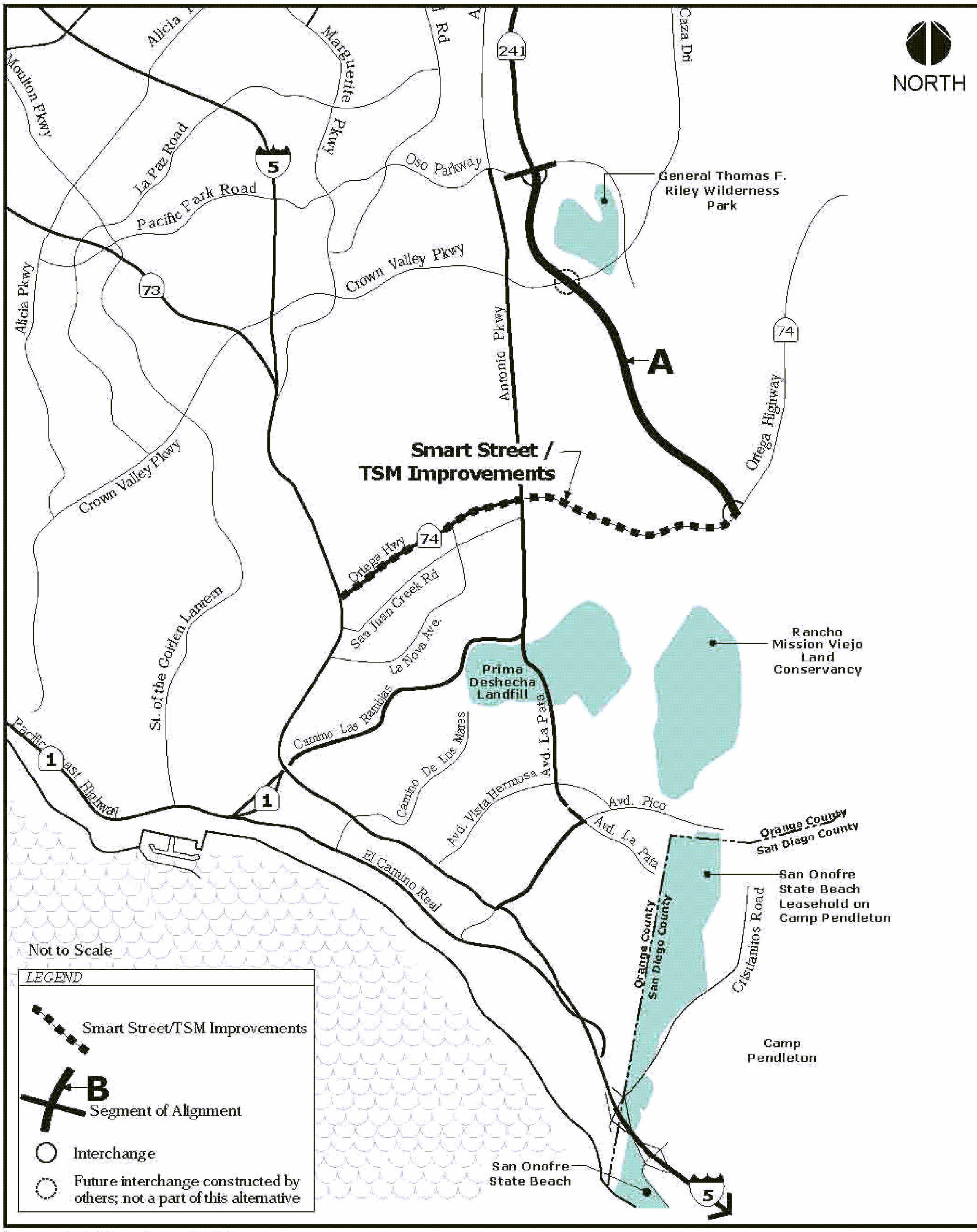
Source: CDMG (2002).

Typical Cross Section for a Collector Road (Secondary Arterial, Four Lanes)



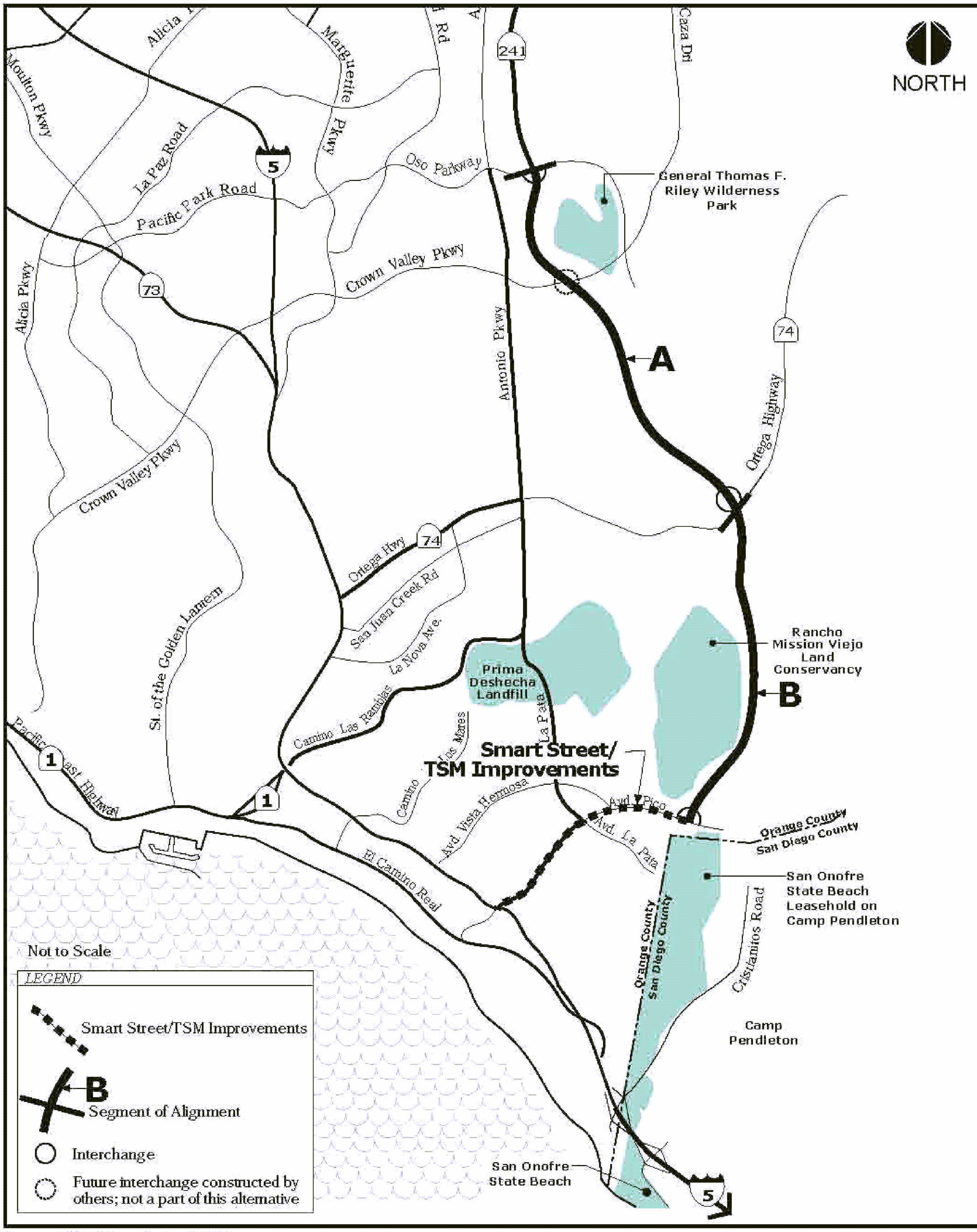
Source: P&D Consultants (2001).

Alignment of the Far East Corridor - Agricultural Fields Variation Alternatives



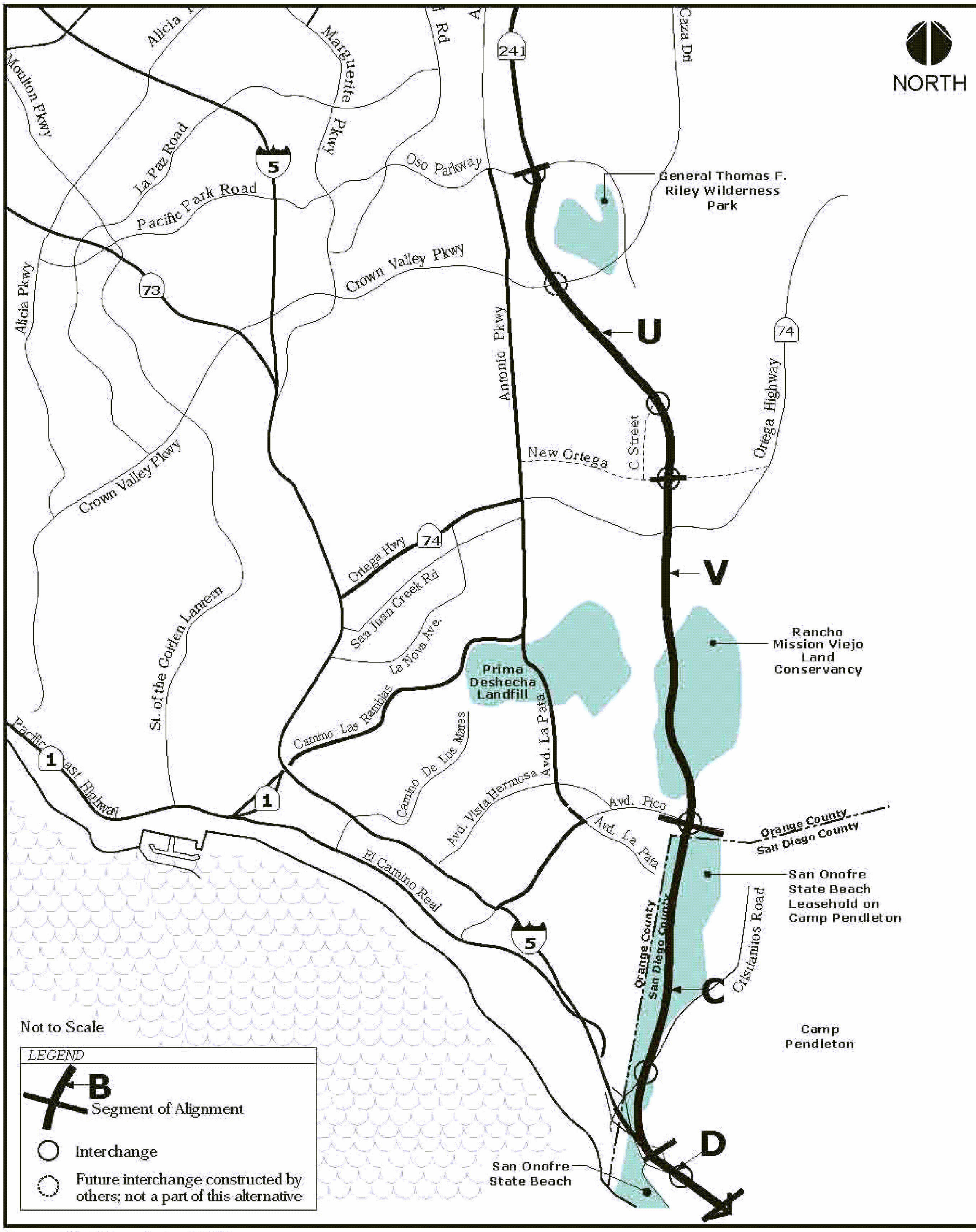
Source: P&D Consultants (2001).

Alignment of the Far East Corridor - Ortega Highway Variation Alternatives



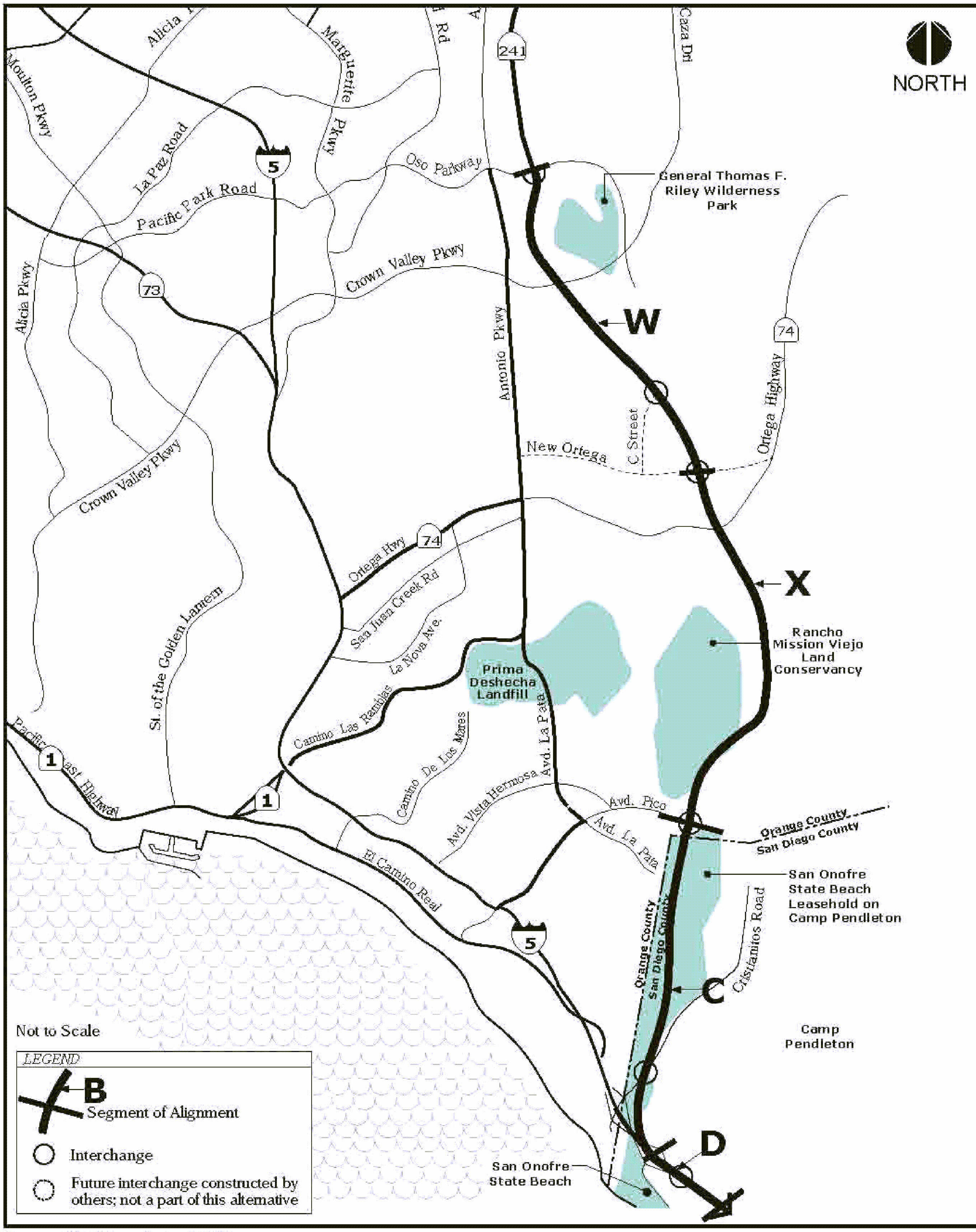
Source: P&D Consultants (2001).

Alignment of the Far East Corridor - Avenida Pico Variation Alternatives



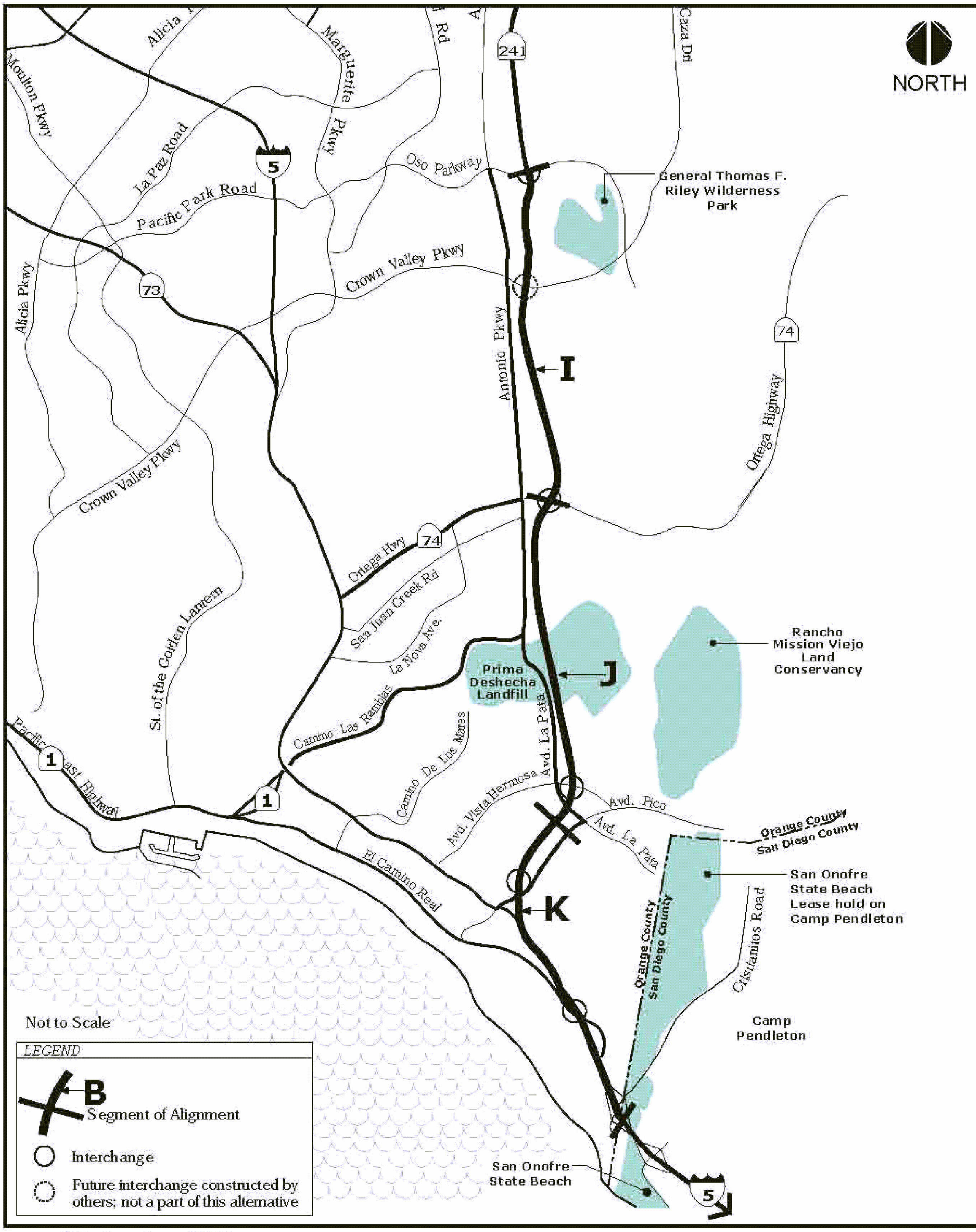
Source: P&D Consultants (2003).

Alignment of the Far East Corridor-West Alternatives



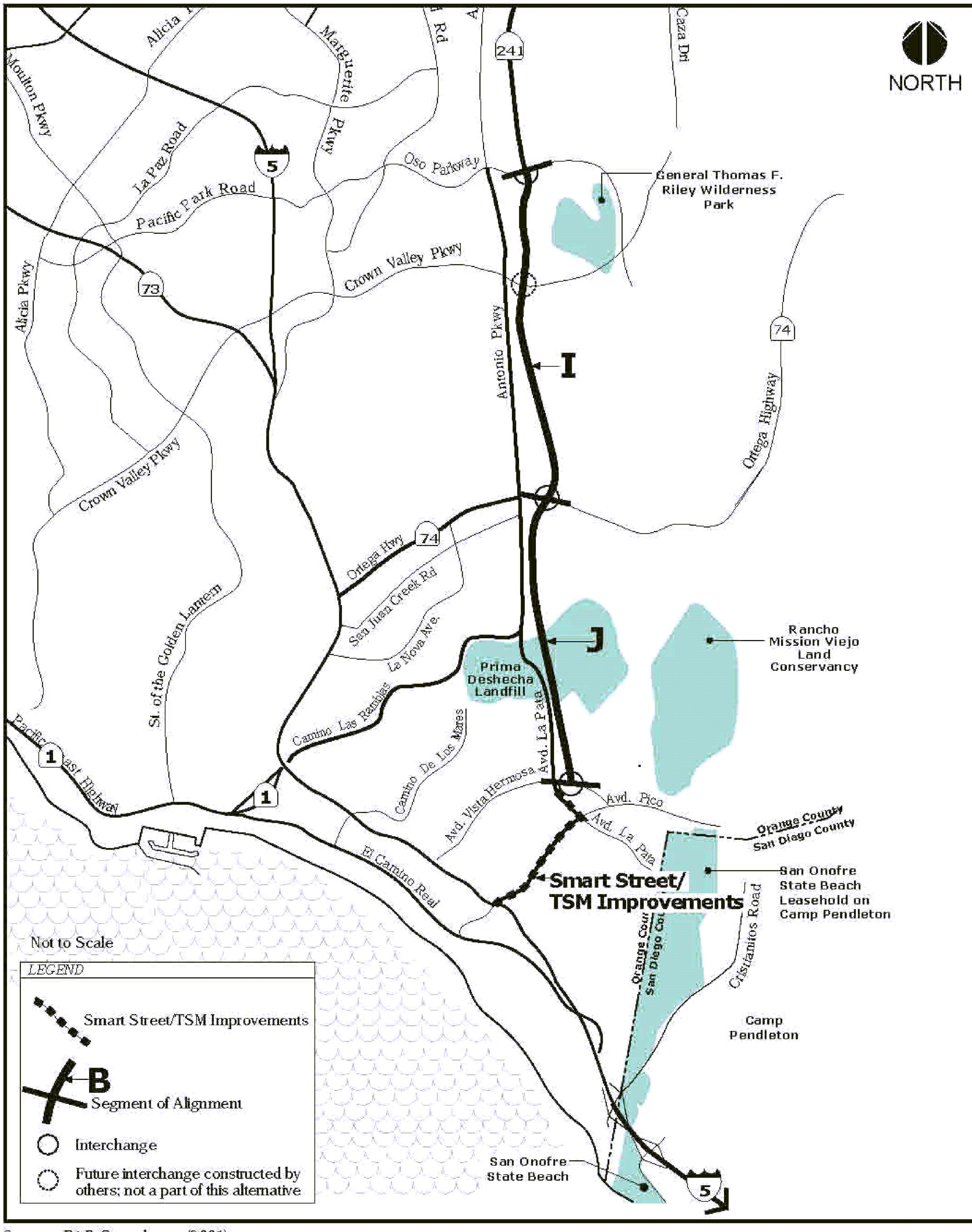
Source: P&D Consultants (2003).

Alignment of the Far East Corridor-Modified Alternatives



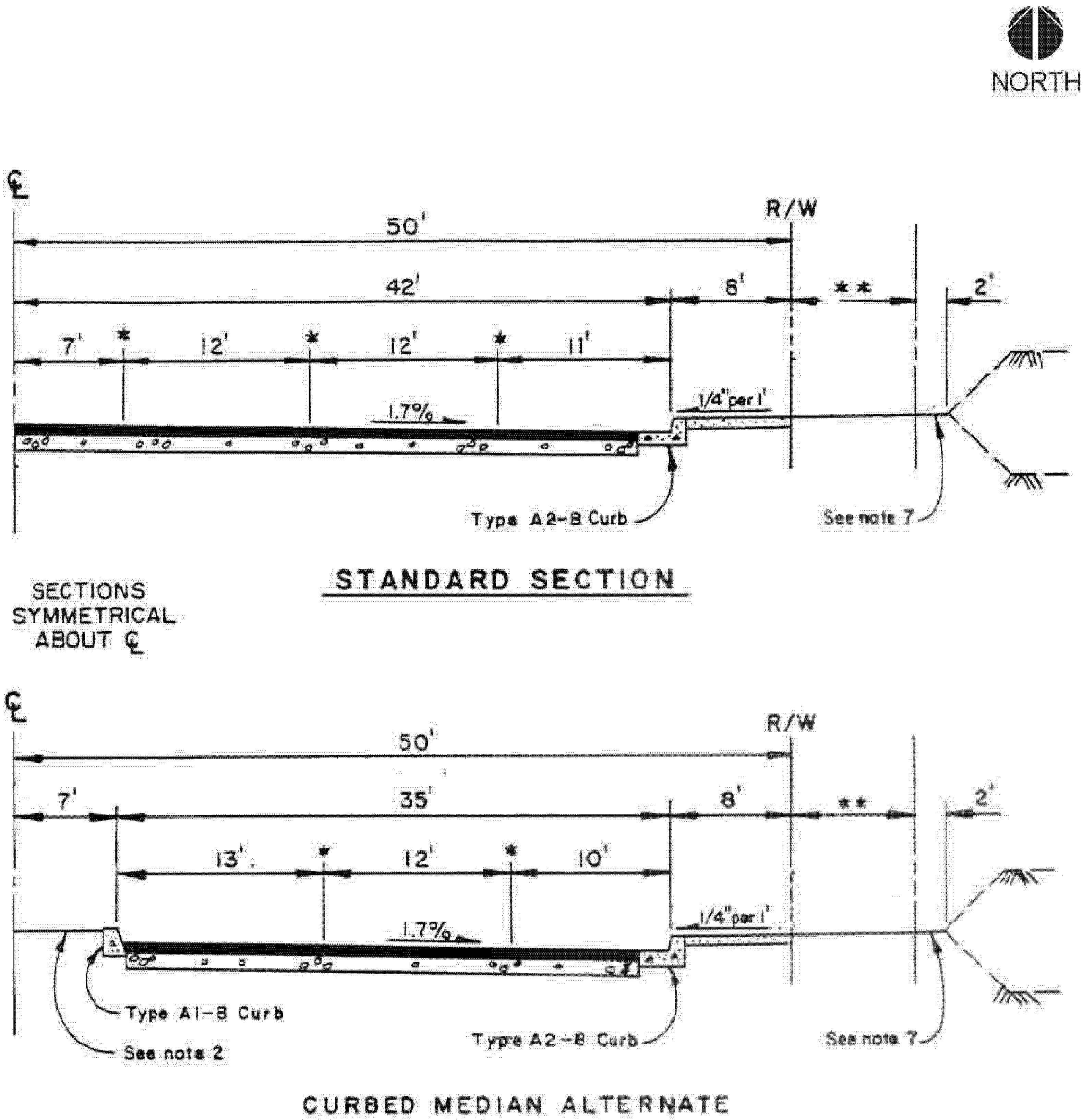
Source: P&D Consultants (2001).

Alignment of the Central Corridor - Complete Alternatives



Source: P&D Consultants (2001).

Alignment of the Central Corridor - Avenida La Pata Variation Alternatives

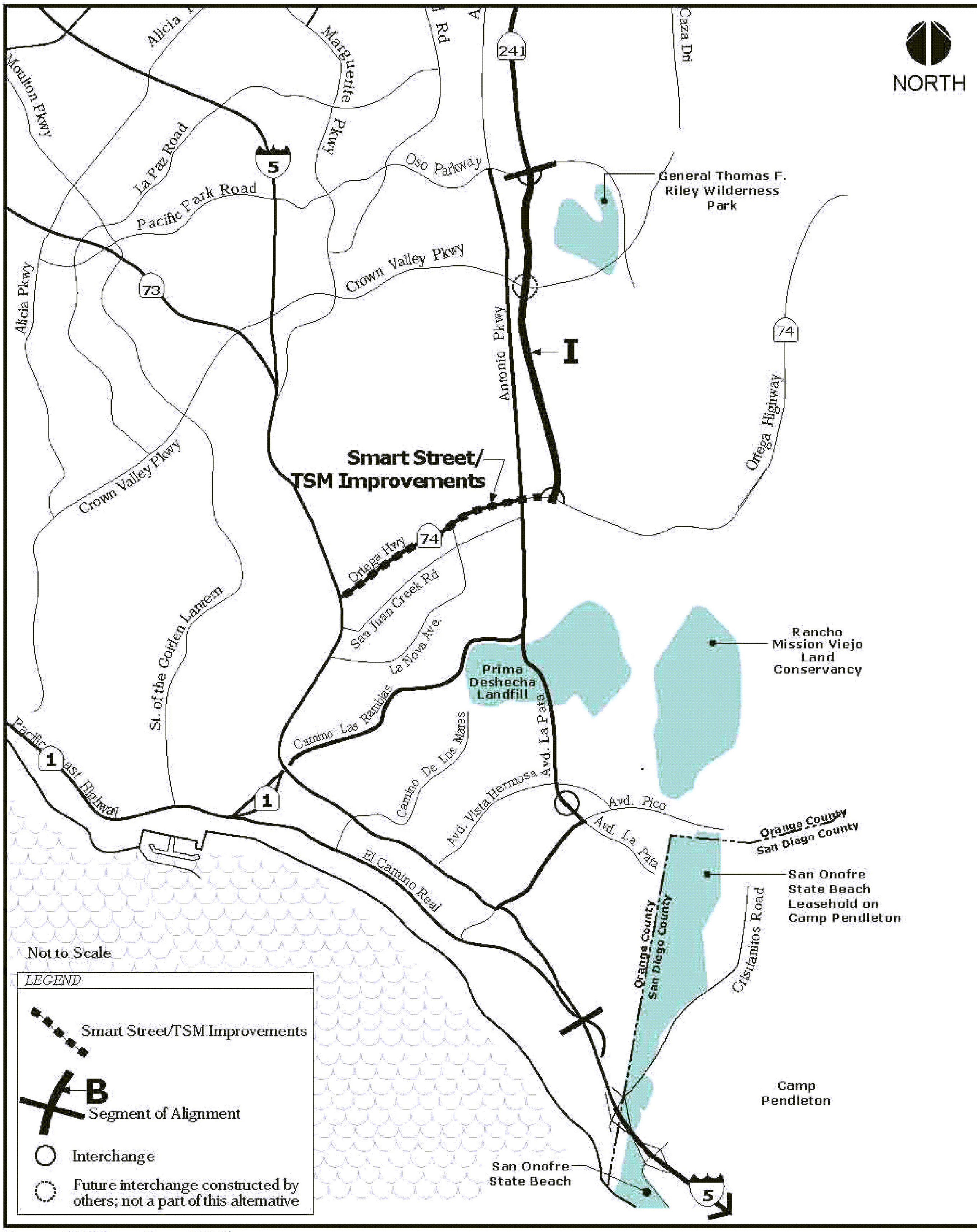


* Longitudinal joint for finish course A.C.

** Additional right of way may be required when an arterial highway coincides with an adopted route for an additional public facility (i.e., pedestrian, bicycle, or equestrian trail), or for a scenic highway.

Source: Standard Plan Reference, Standard Plan 1103 (County of Orange).

Typical Cross Section for a Four Lane Primary Arterial



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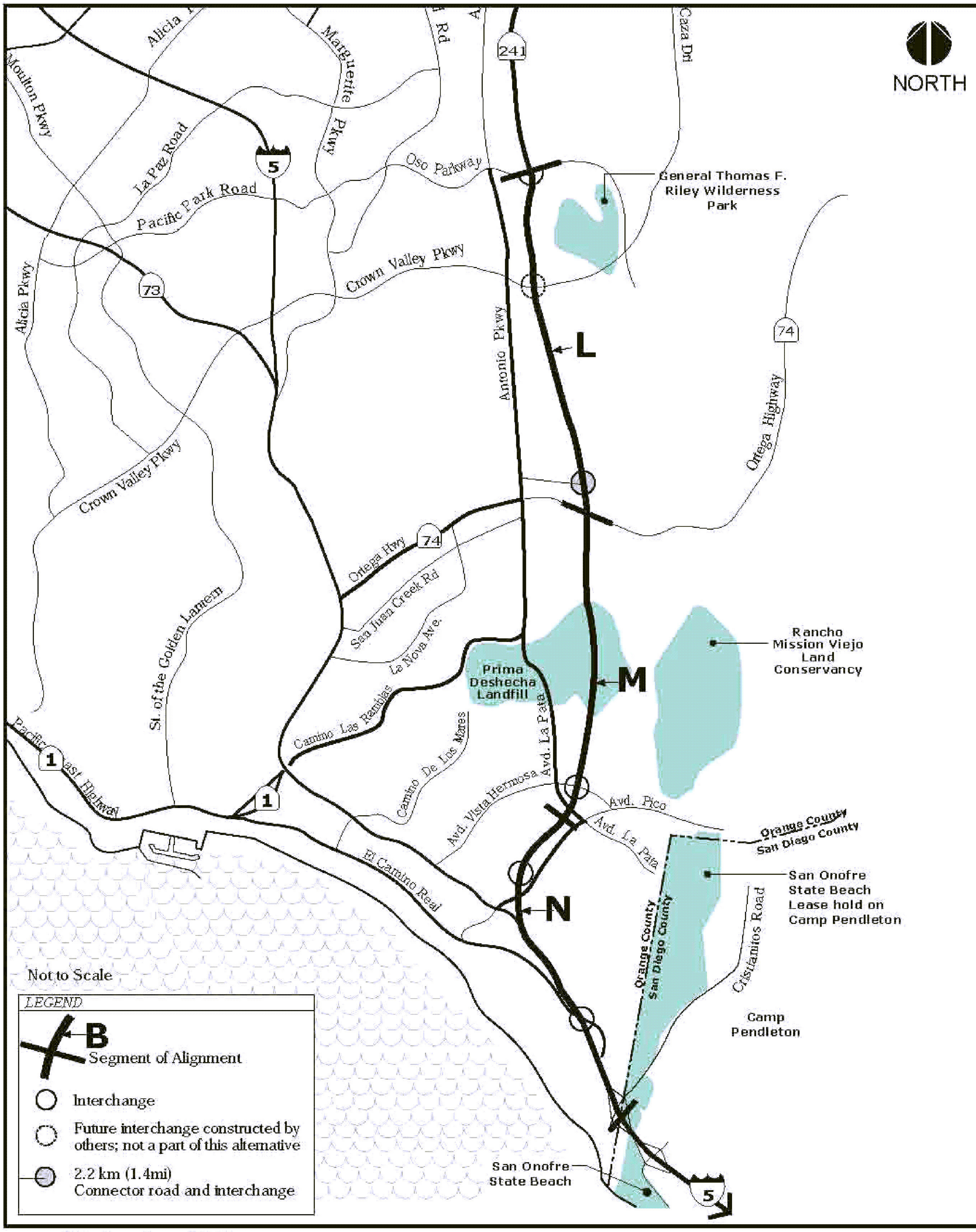
Alignment of the Central Corridor - Ortega Highway Variation Alternatives



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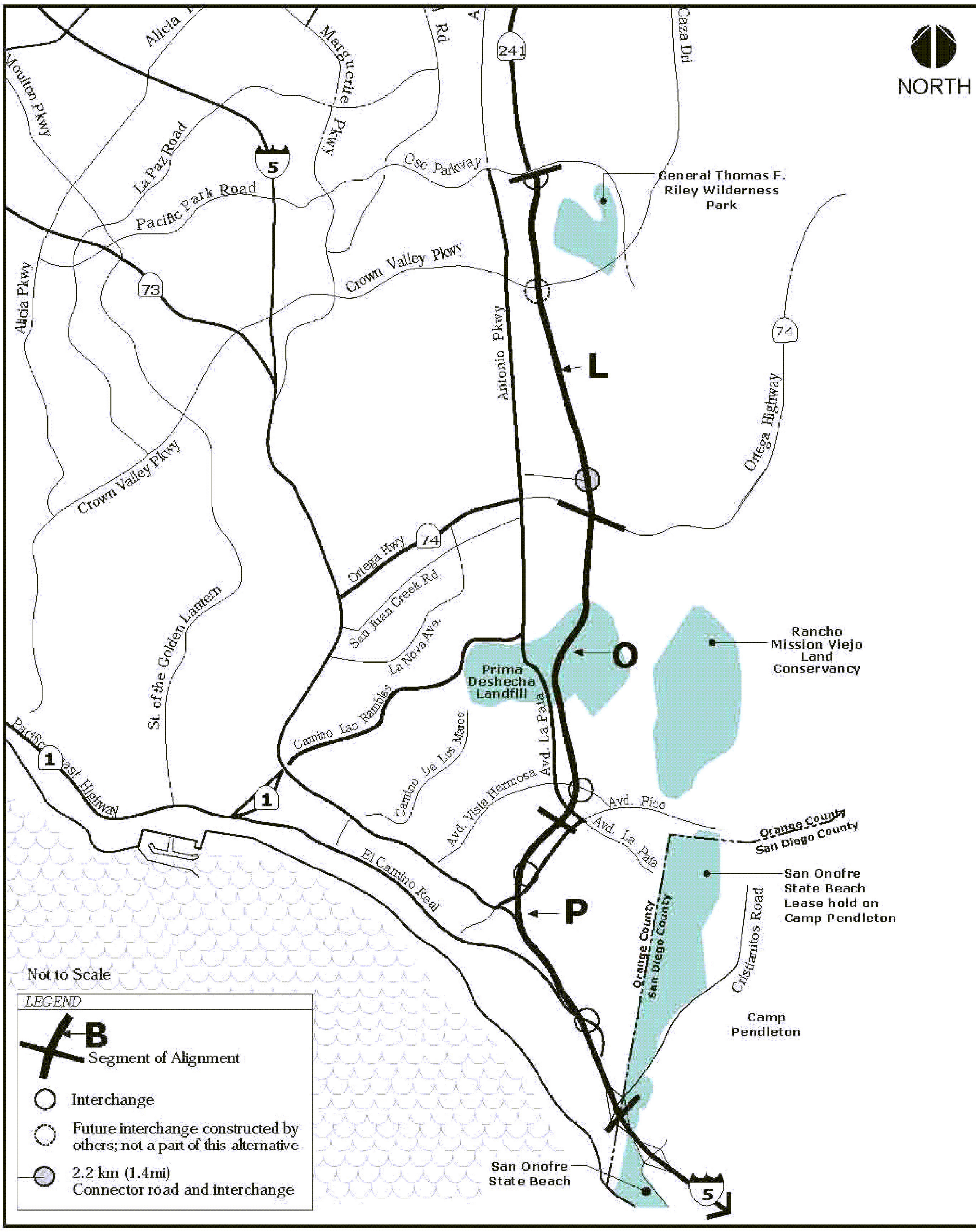
Alignment of the Alignment 7 Corridor-Complete Alternatives



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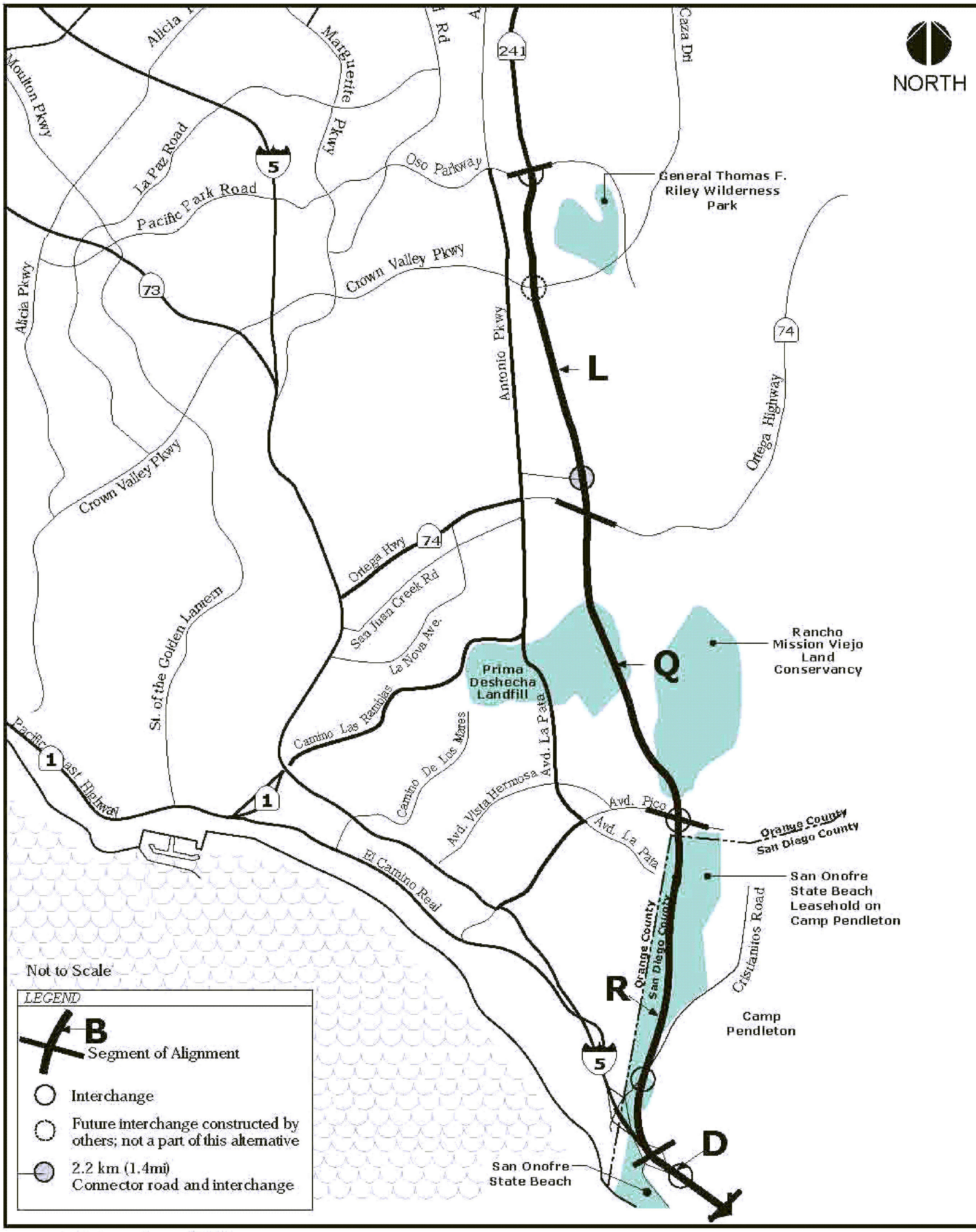
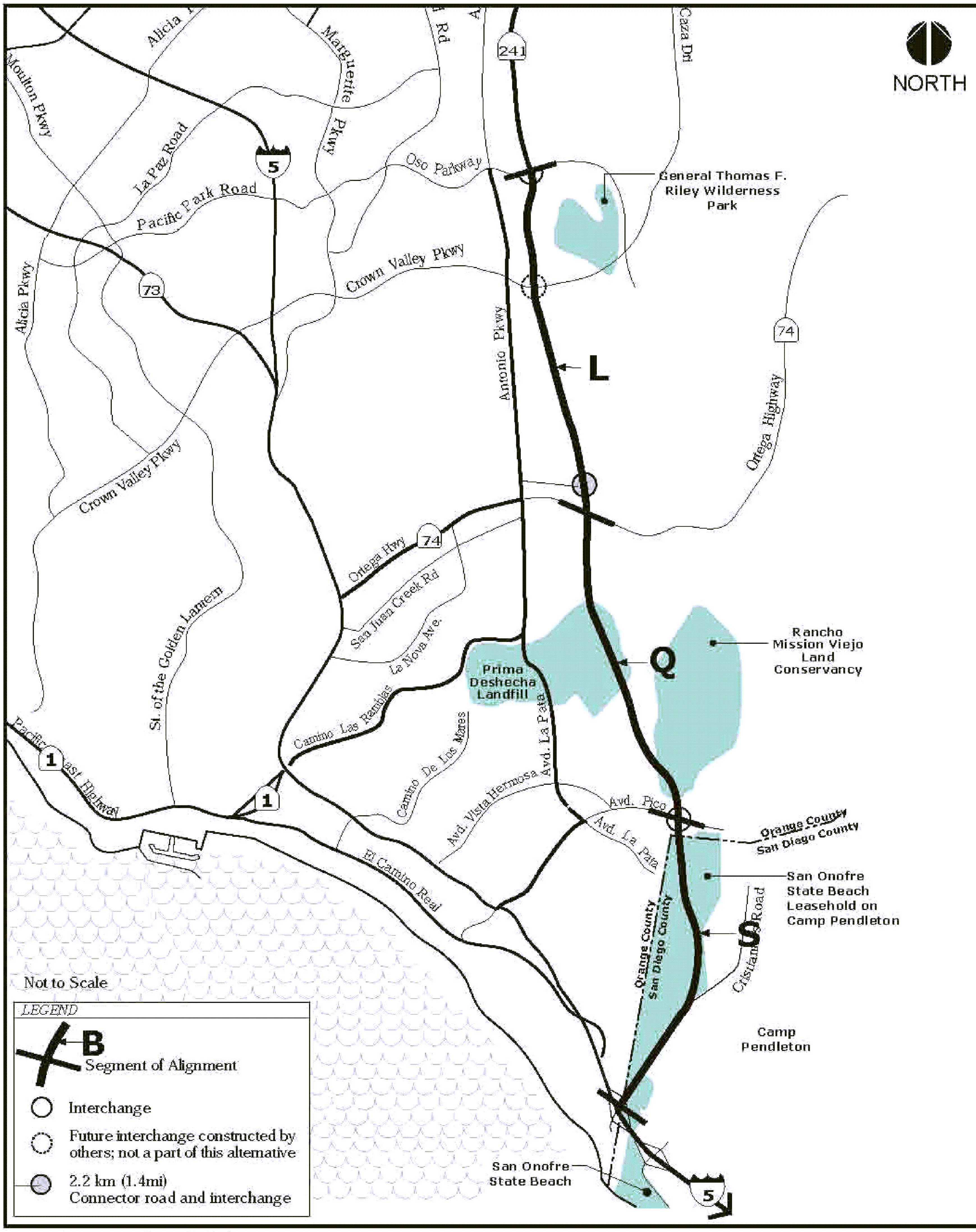
Alignment of the Alignment 7 Corridor - 7 Swing Variation Alternatives



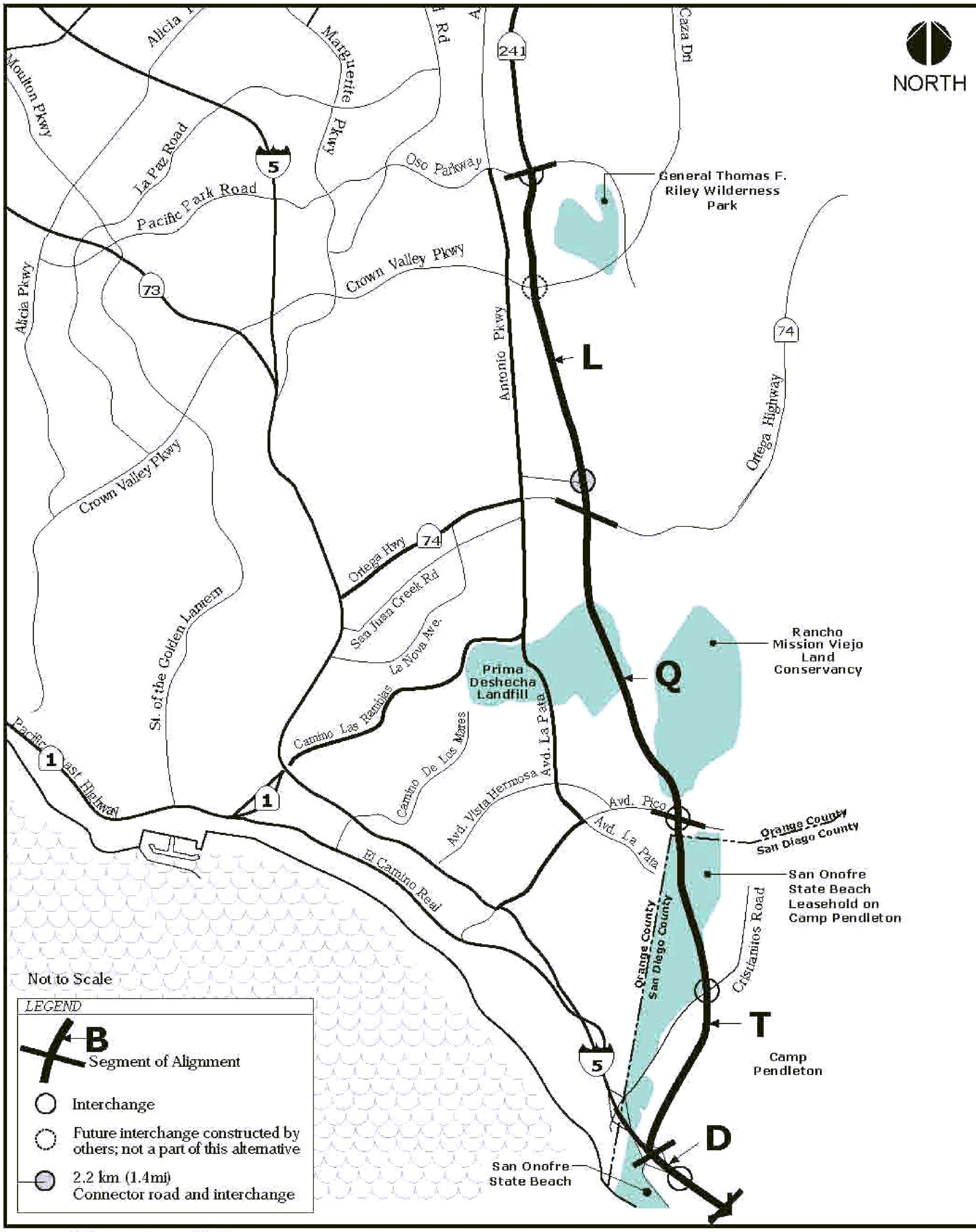
Source: P&D Consultants (2001).

Alignment of the Alignment 7 Corridor - Far East Crossover Variation Alternatives



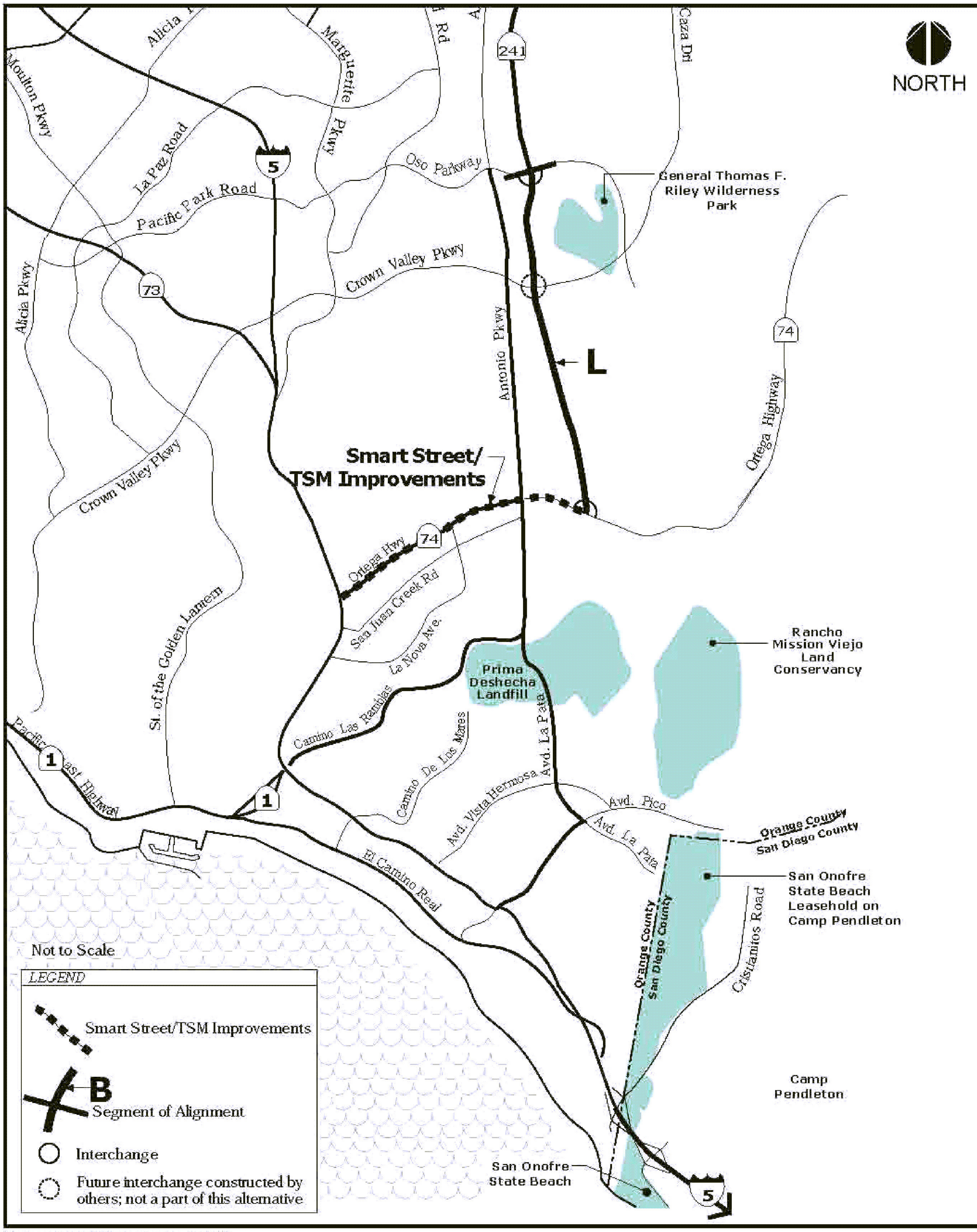
Source: P&D Consultants (2001).

Alignment of the Aligment 7 Corridor - Far East Crossover (Cristianitos) Variation Alternatives



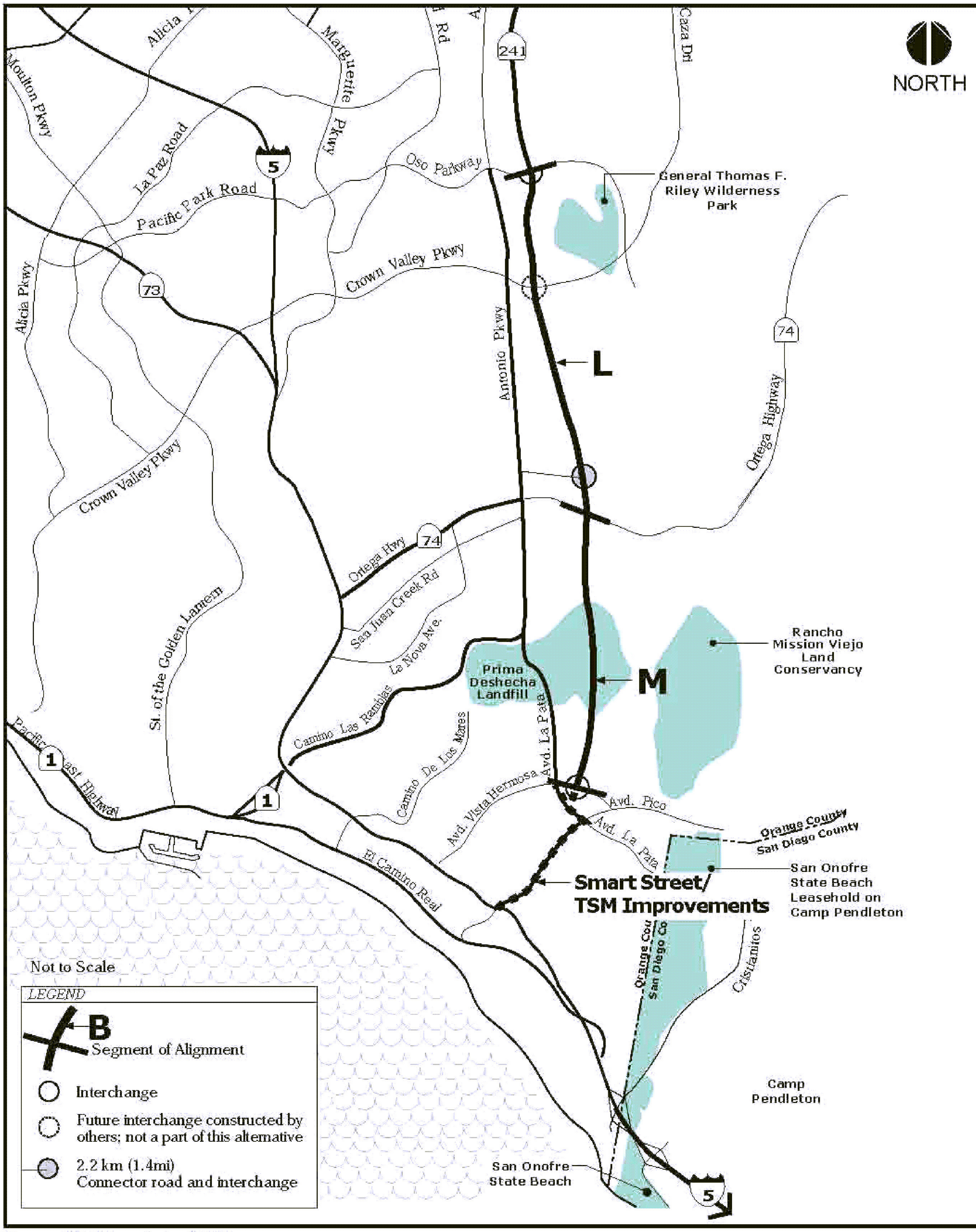
Source: P&D Consultants (2001).

Alignment of the Alignment 7 Corridor - Far East Crossover (Agricultural Fields) Variation Alternatives



Source: P&D Consultants (2001).

Alignment of the Alignment 7 Corridor - Ortega Highway Variation Alternatives



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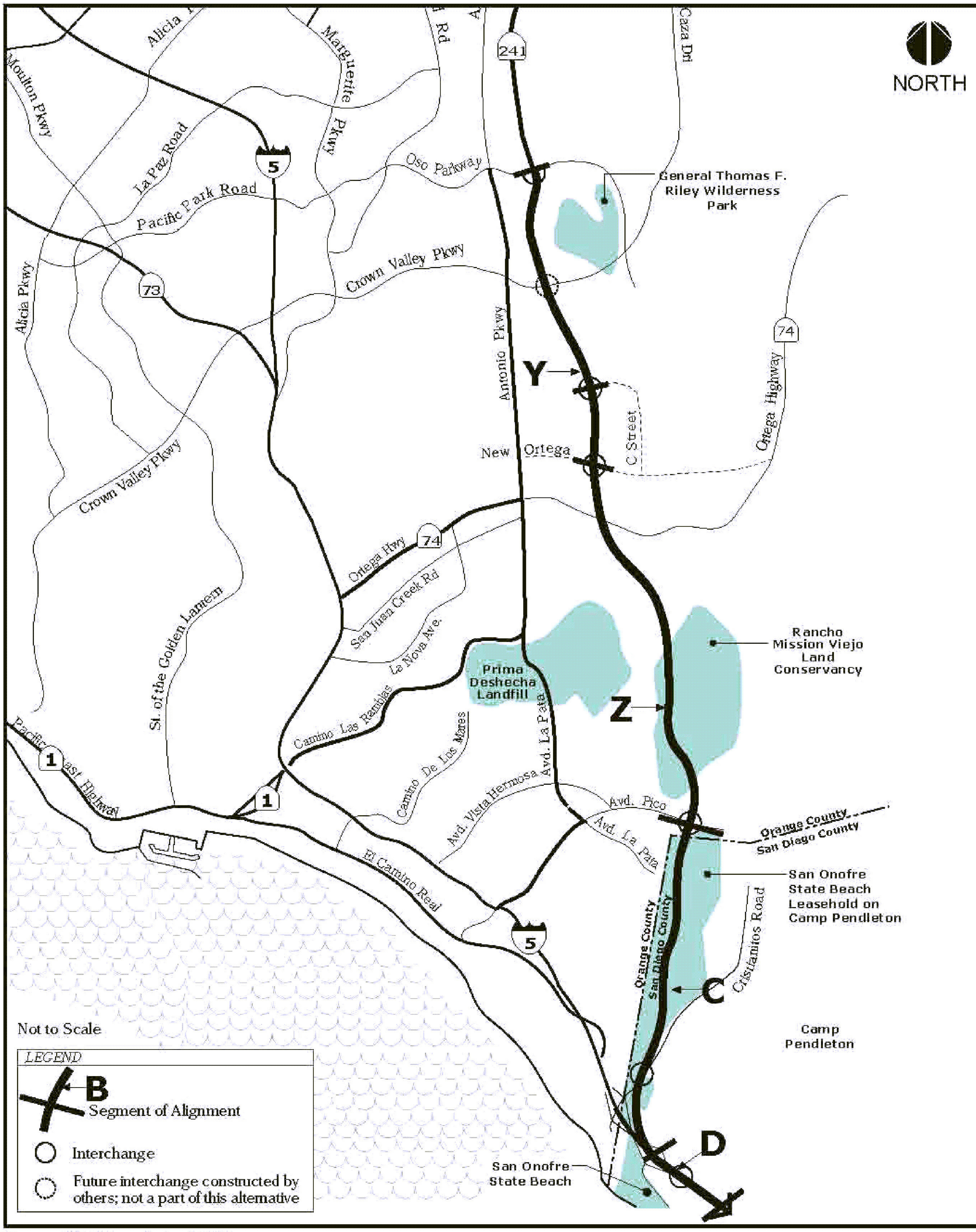
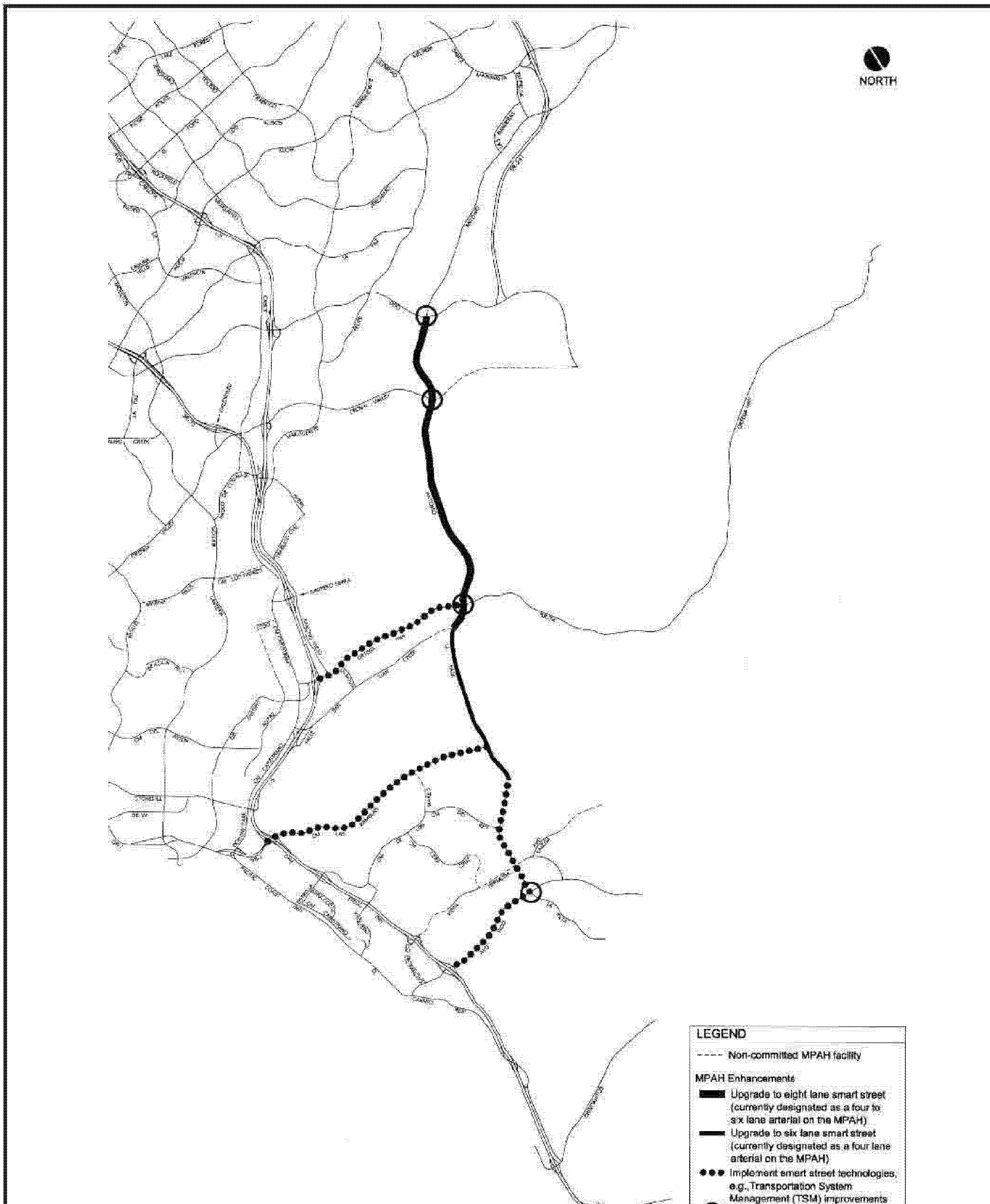
Alignment of the Alignment 7 Corridor - Avenida La Pata Variation Alternatives



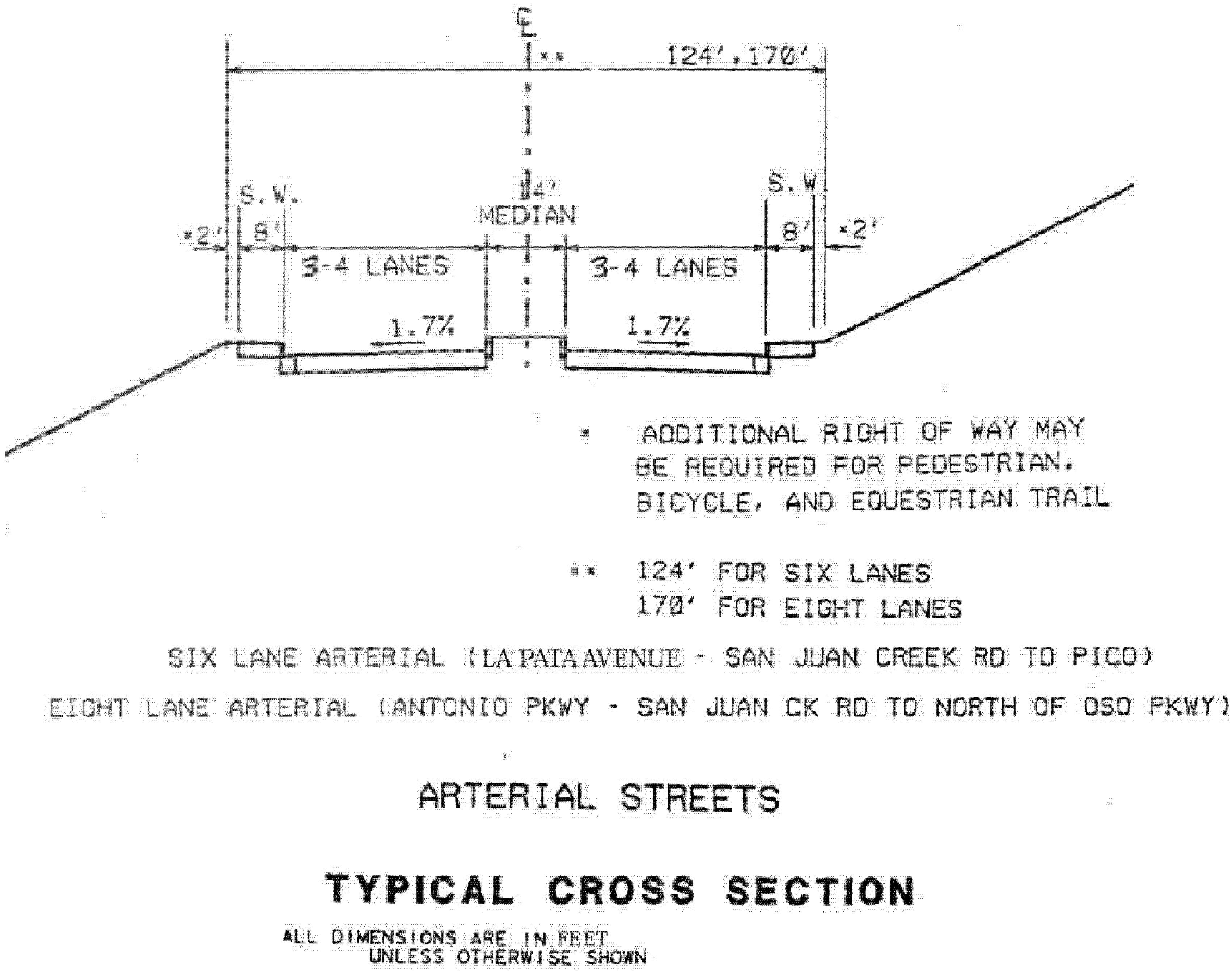
Source: P&D Consultants (2001).

Alignment of the Alignment 7 Corridor-Far East Crossover-Modified Alternatives

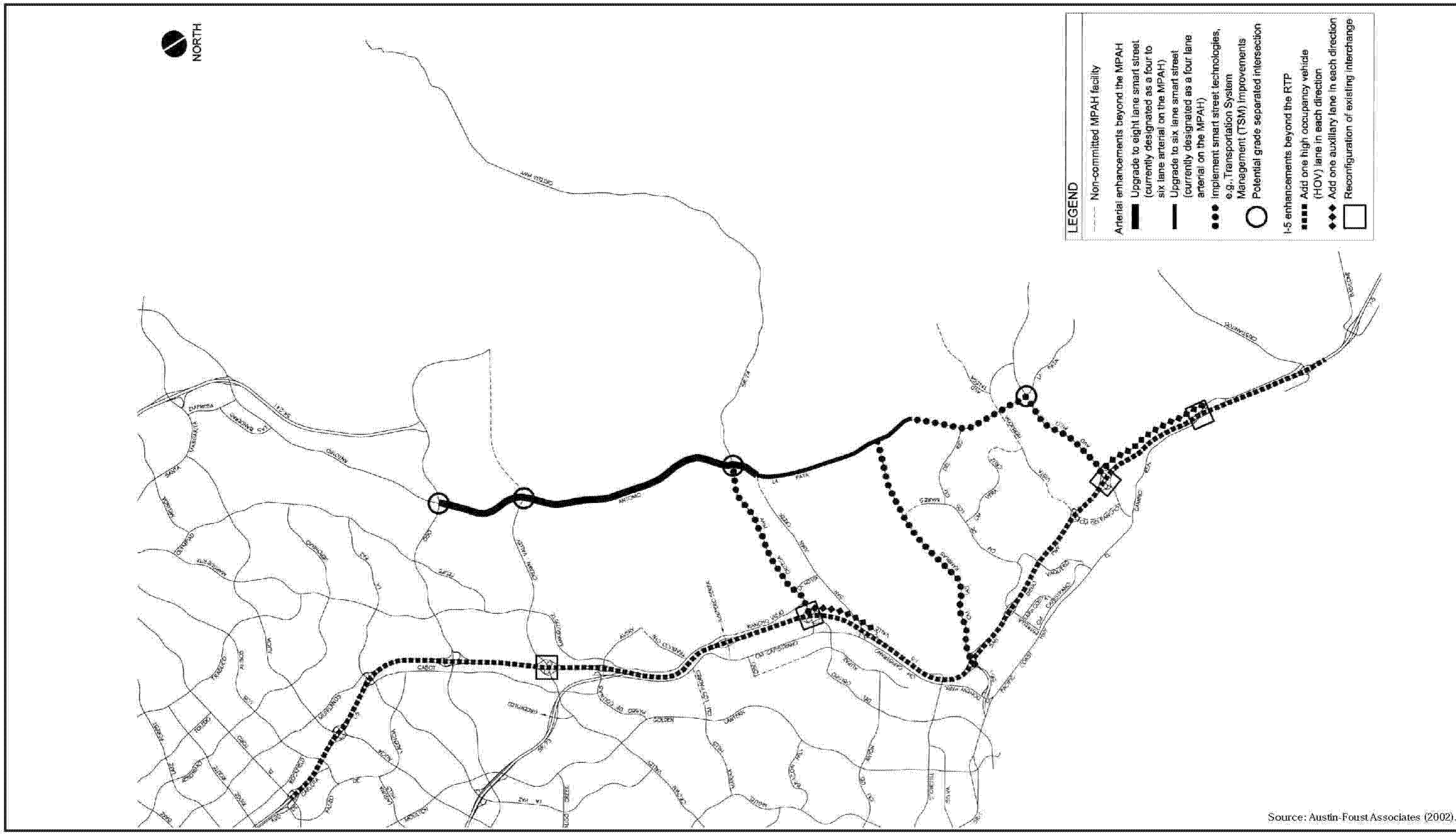


Source: Austin-Foust Associates (2002).

Arterial Improvements Only Alternative

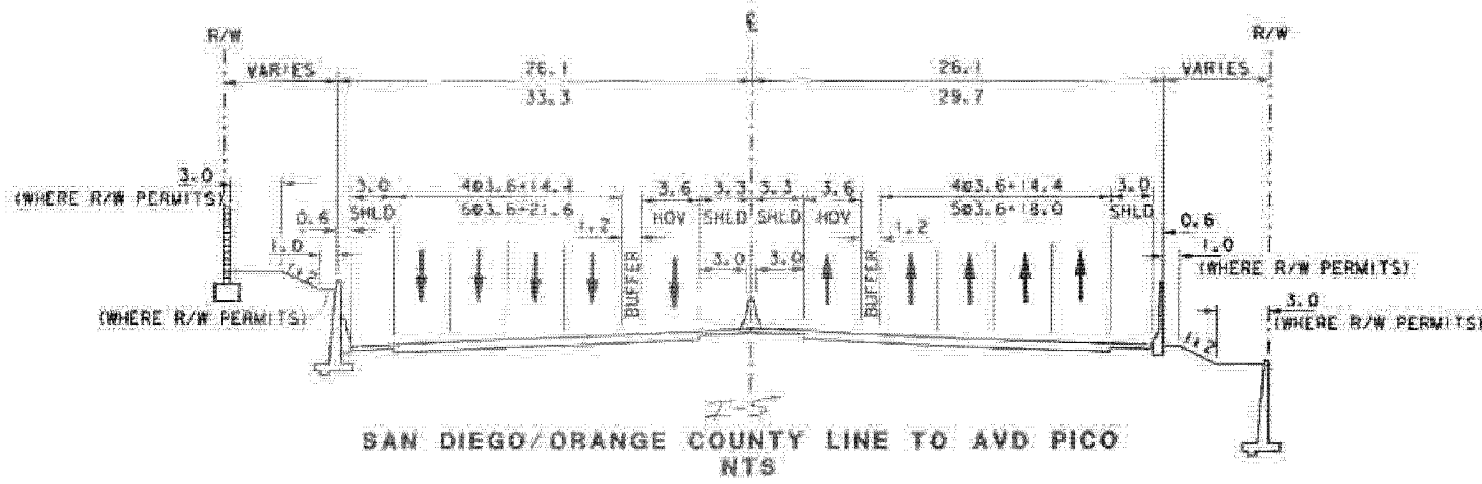


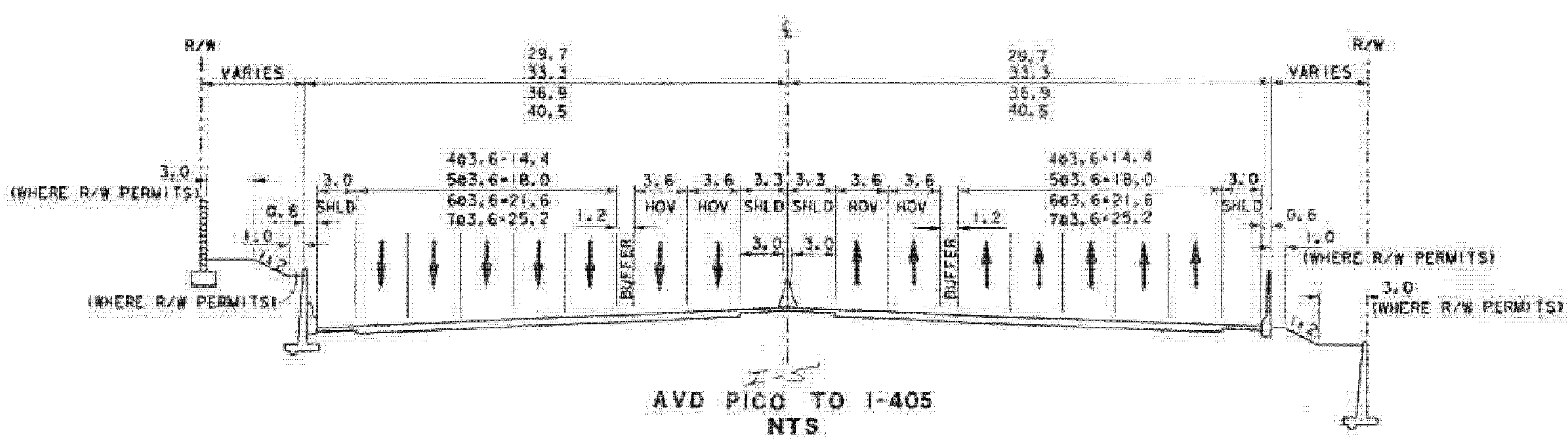
Typical Cross Section for Antonio Parkway/La Pata Avenue Under the AIO and AIP Alternatives



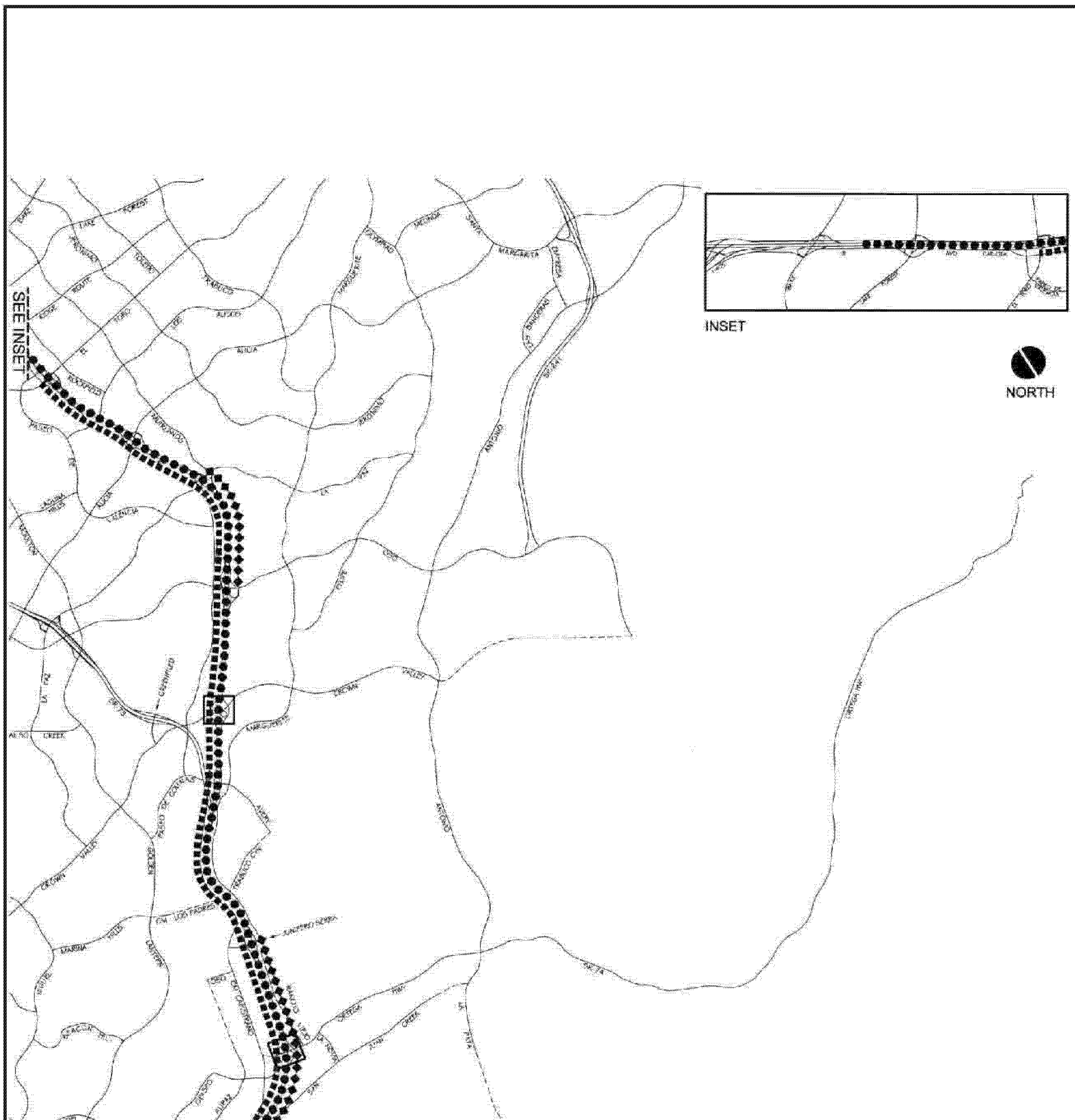
Source: Austin-Foust Associates (2002).

Arterial Improvements Plus I-5 Alternative



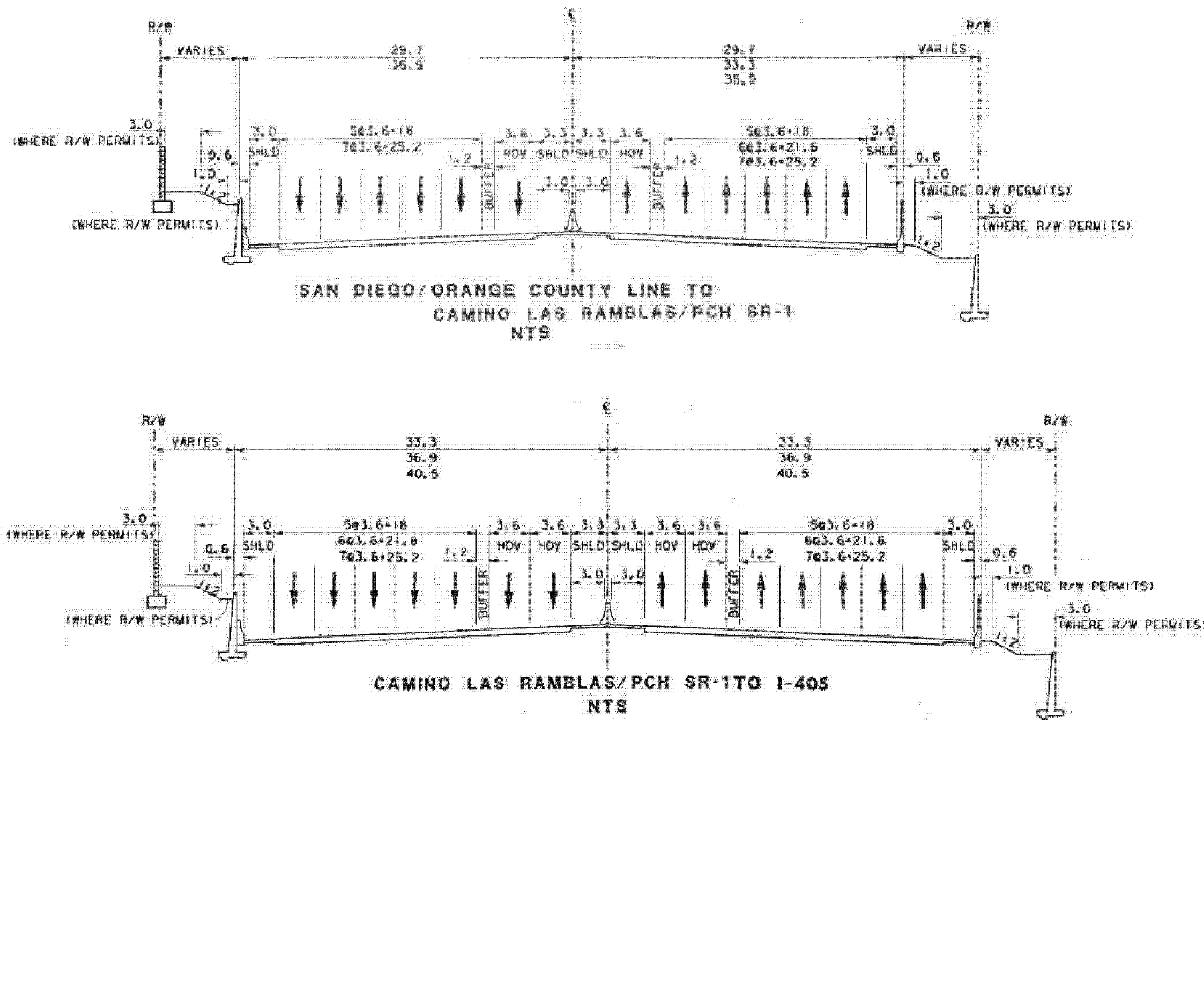


Typical Cross Section on I-5 Under the AIP Alternative

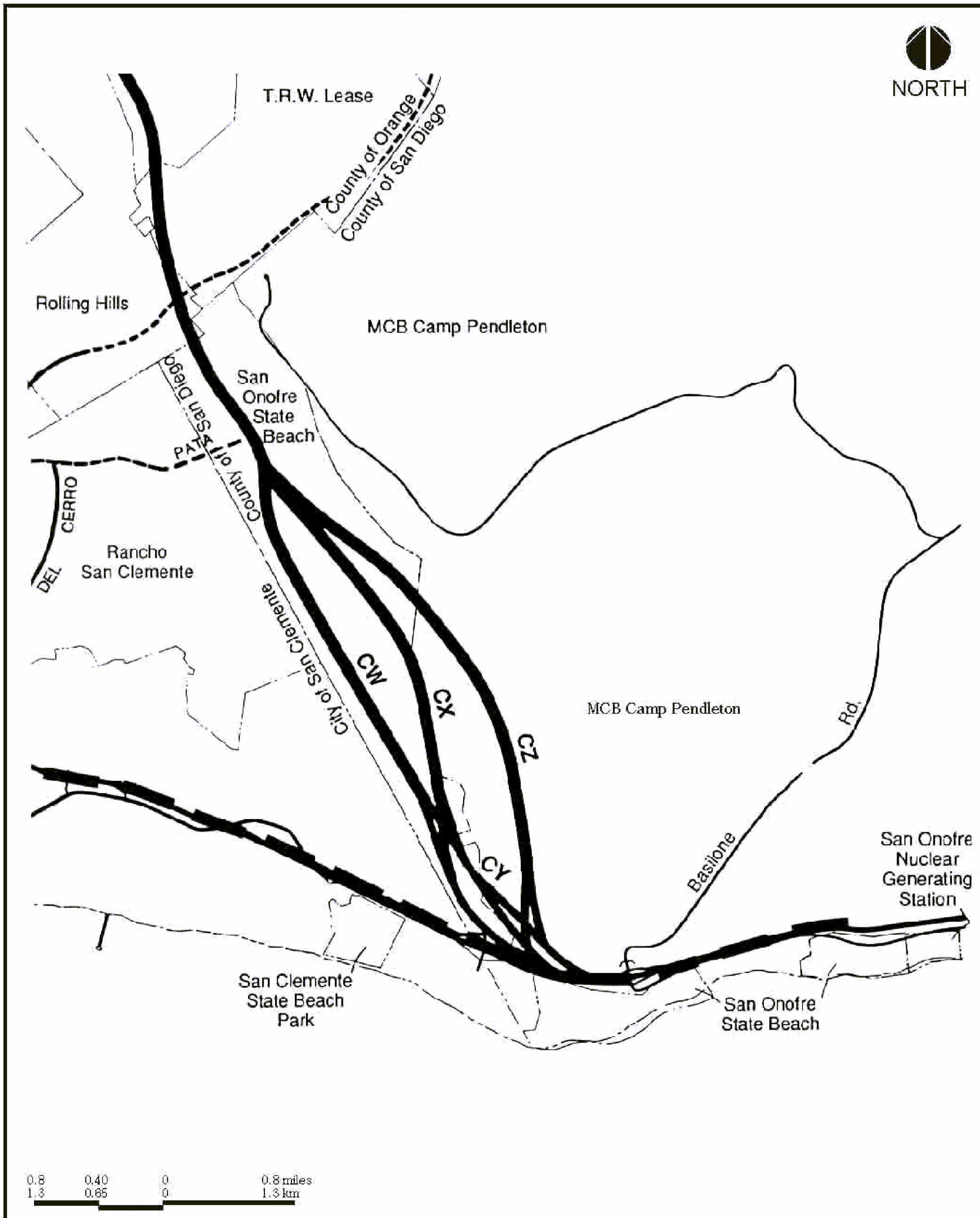


Source: Austin-Foust Associates (2002).

I-5 Alternative



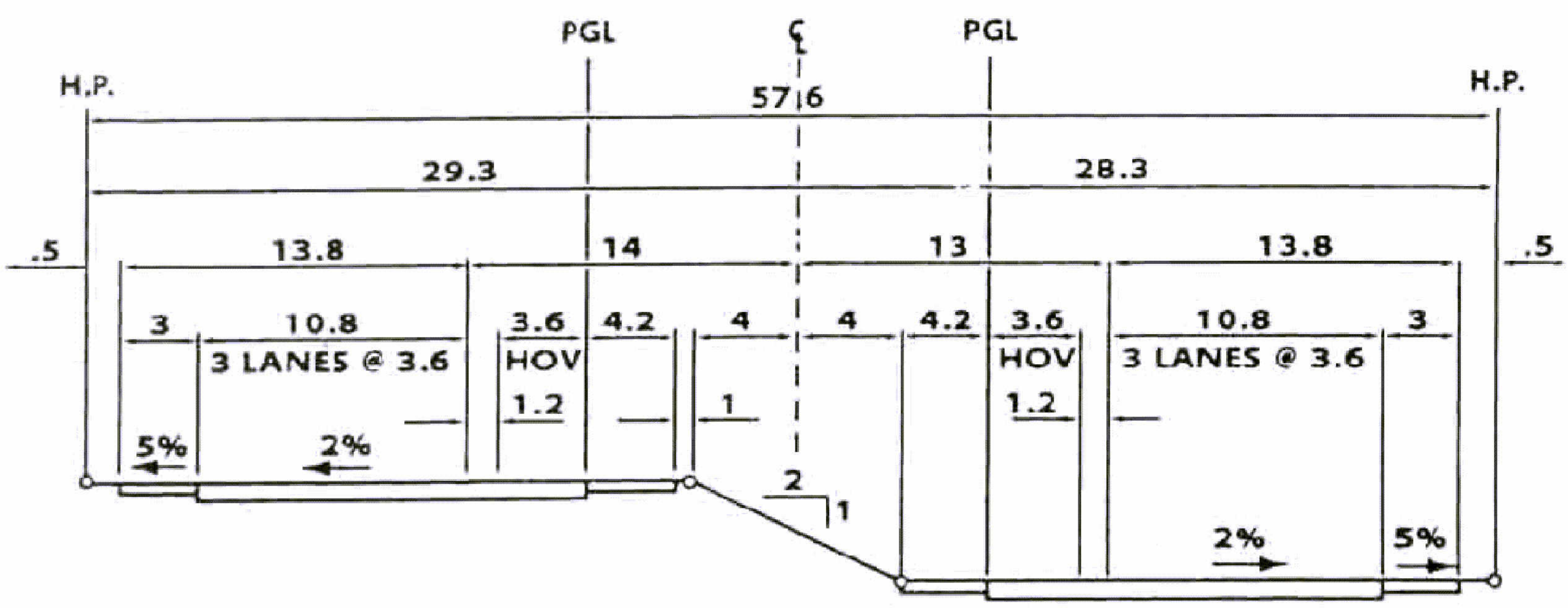
Typical Cross Section on I-5 Under the I-5 Alternative



Source: TCA Final EIR No.3 (Exhibit 2-10).

Variations (CW, CX, CY and CZ) Considered for the Southern Terminus of the Far East Alignment

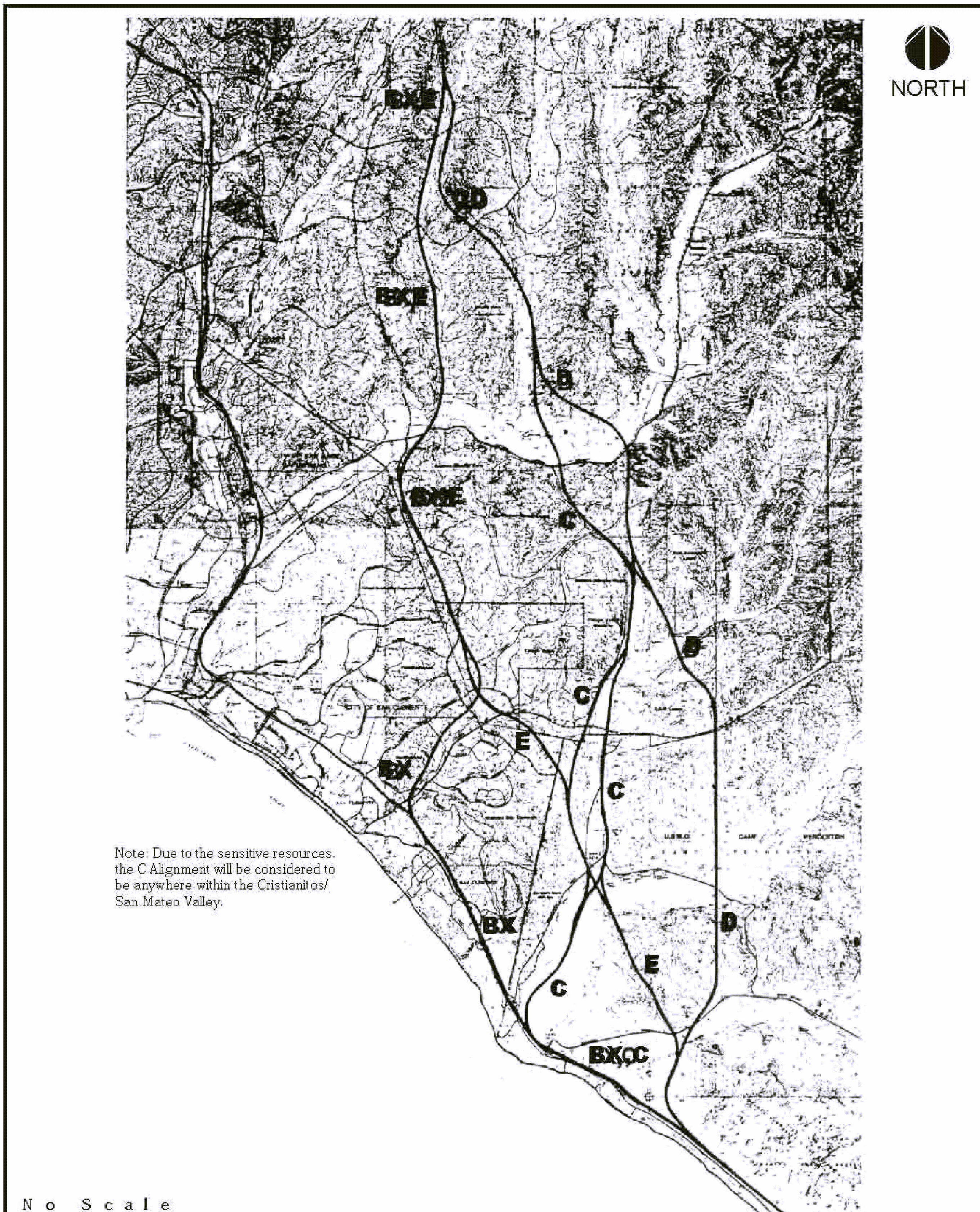
NORTH



Note: Dimensions are shown in meters.

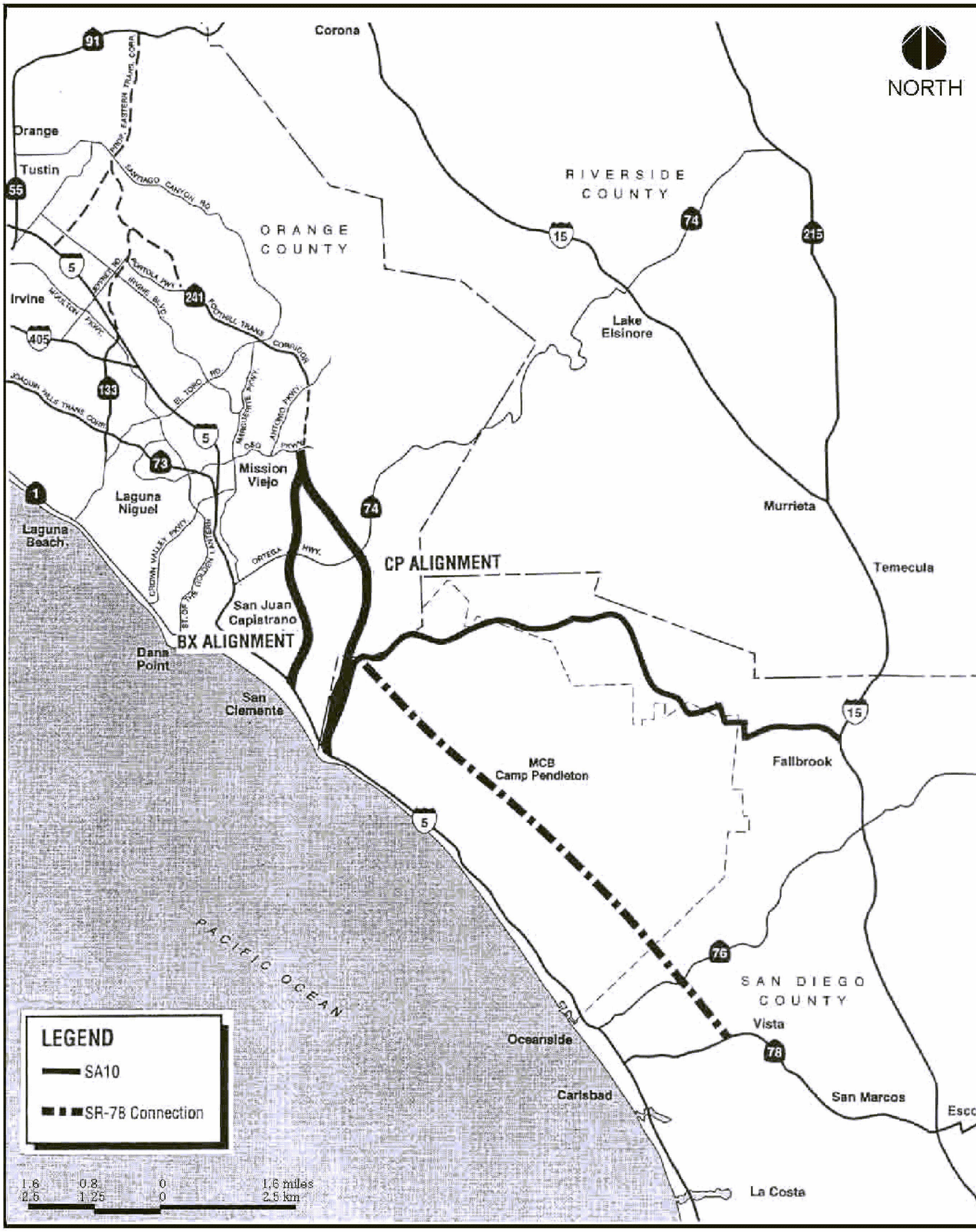
Source: TCA (2002).

Split Profile Cross Section



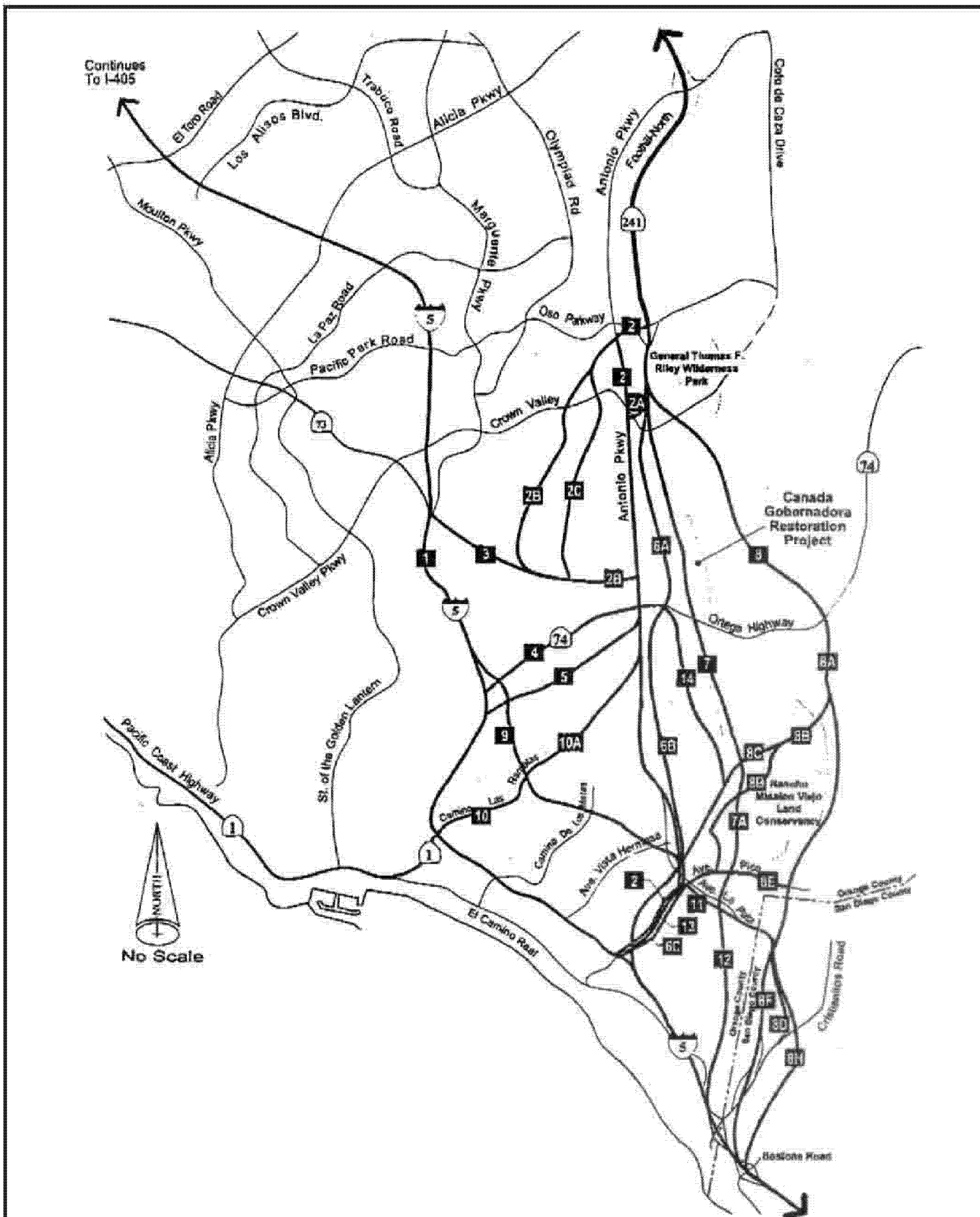
Source: Robert Bein, William Frost & Associates (1986).

Primary Alternatives Selected During the 1986 Scoping Process



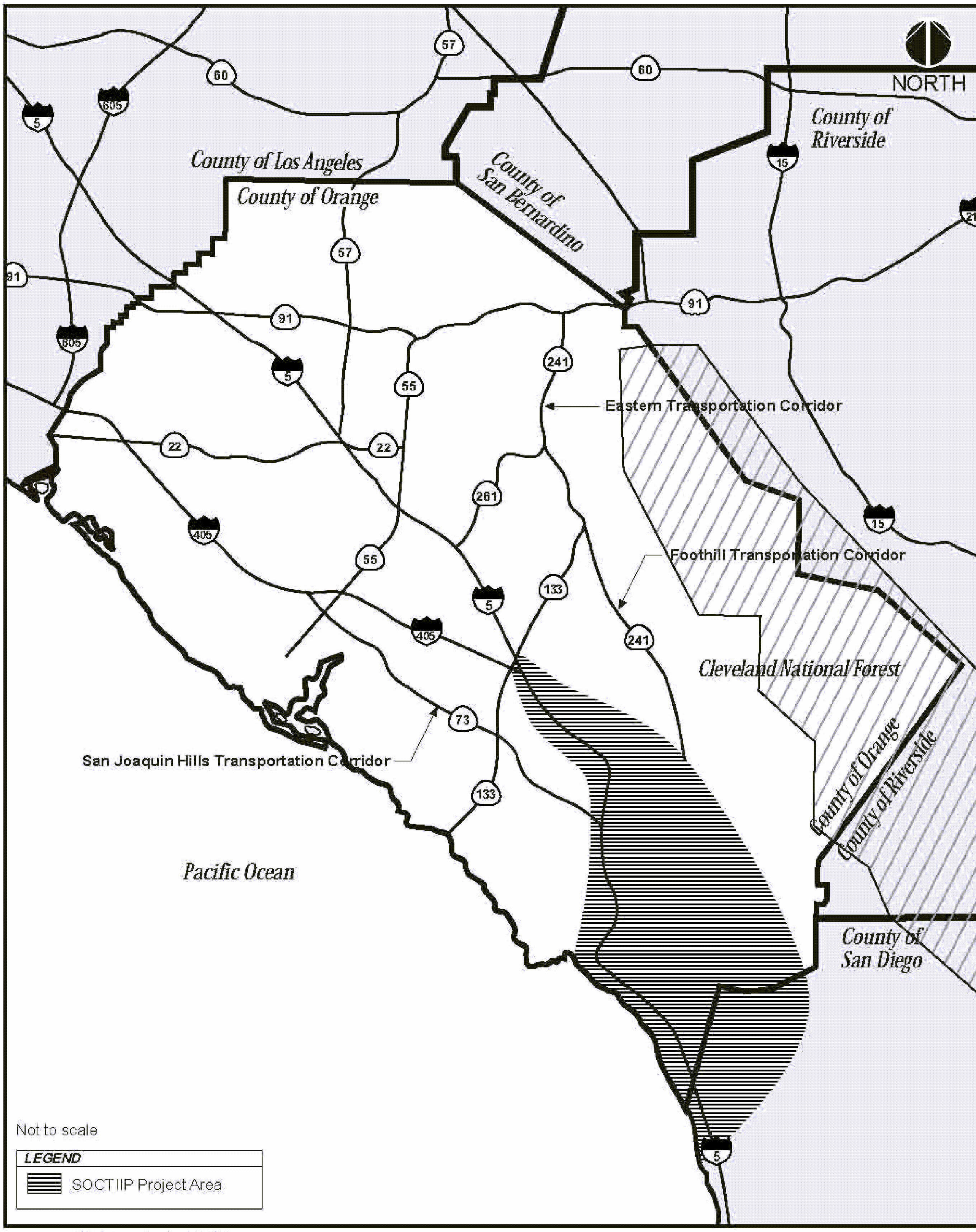
Source: TCA Final EIR No.3.

Conceptual Alternative Routes on the Southern Terminus



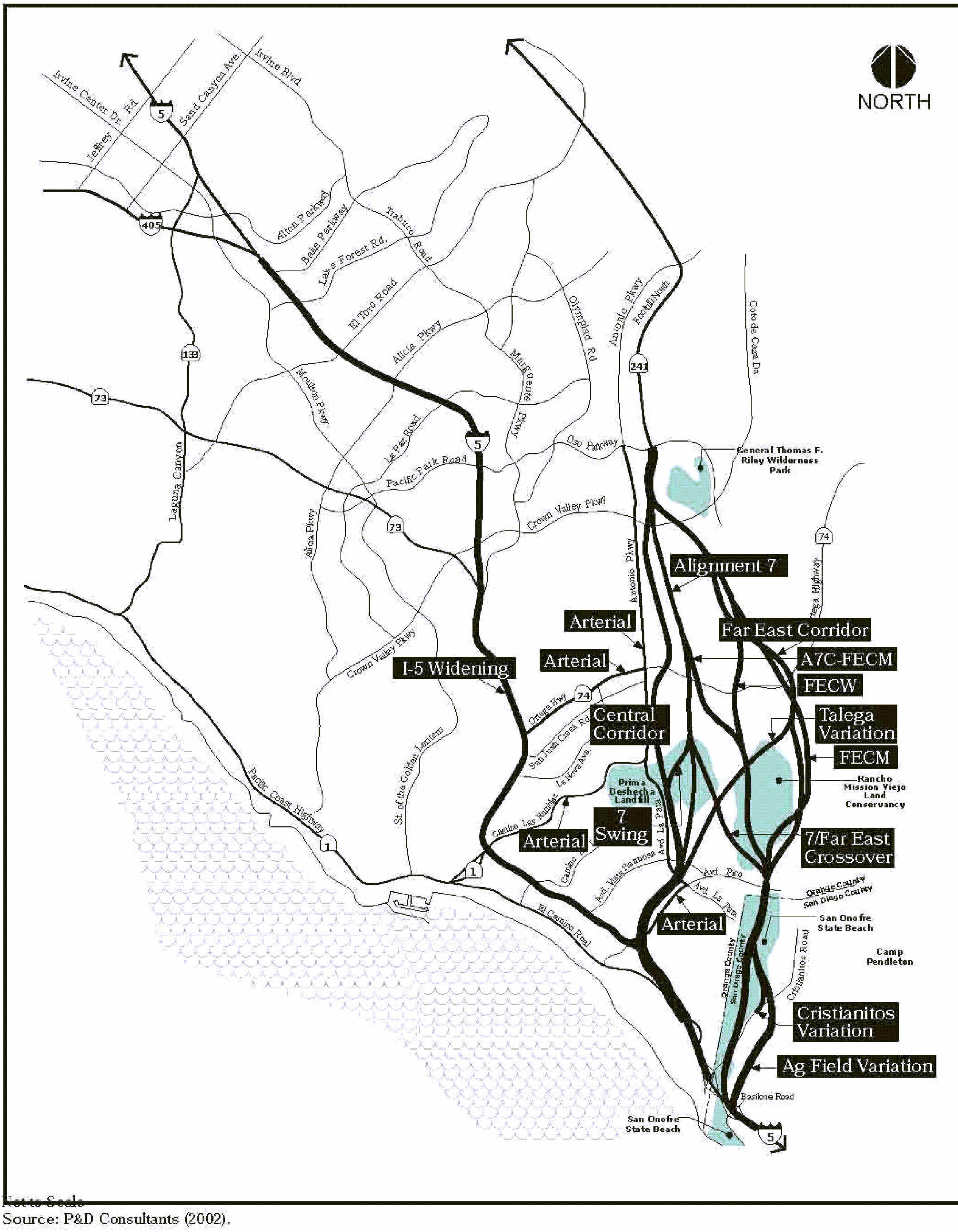
Source: SOCTIIP Phase I Collaborative (2000).

Alignments Considered by the Collaborative



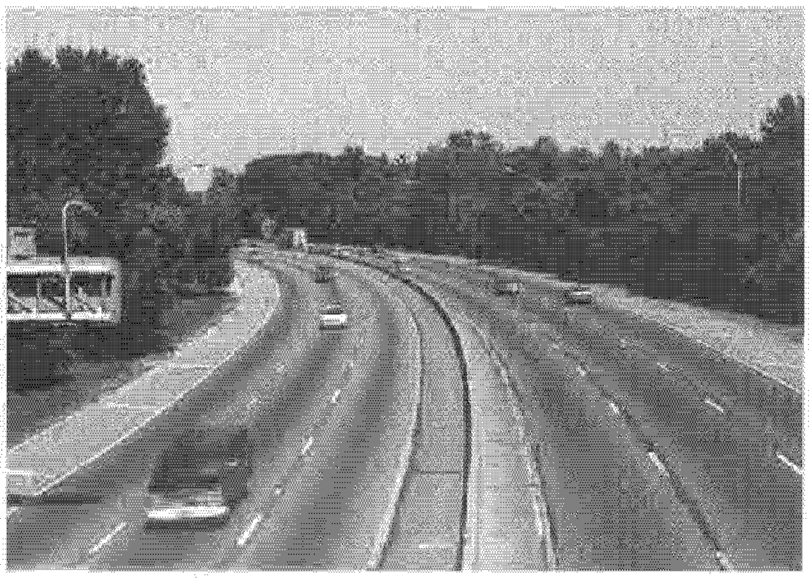
Source: P&D Consultants (2002)

Regional Location

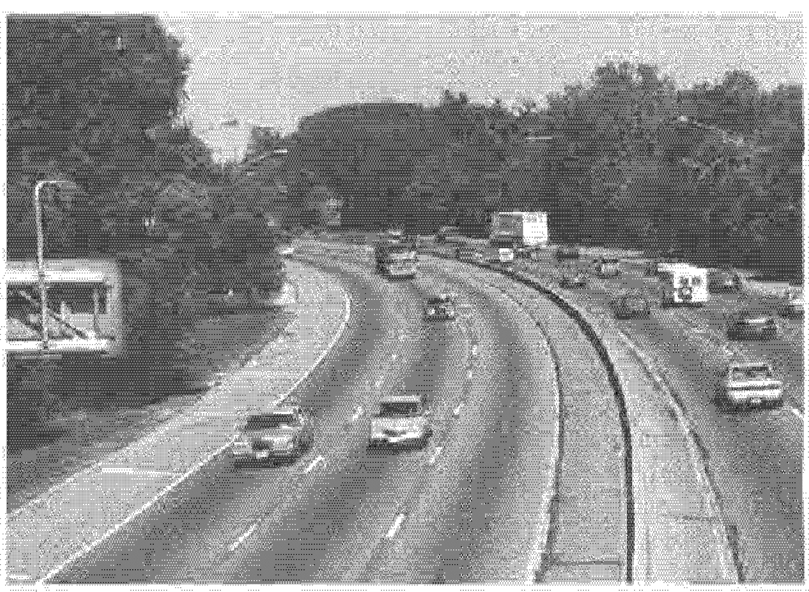


~~Not to Scale~~
Source: P&D Consultants (2002).

Alignments of the Build Alternatives



Level of Service A



Level of Service B

Level of Service C

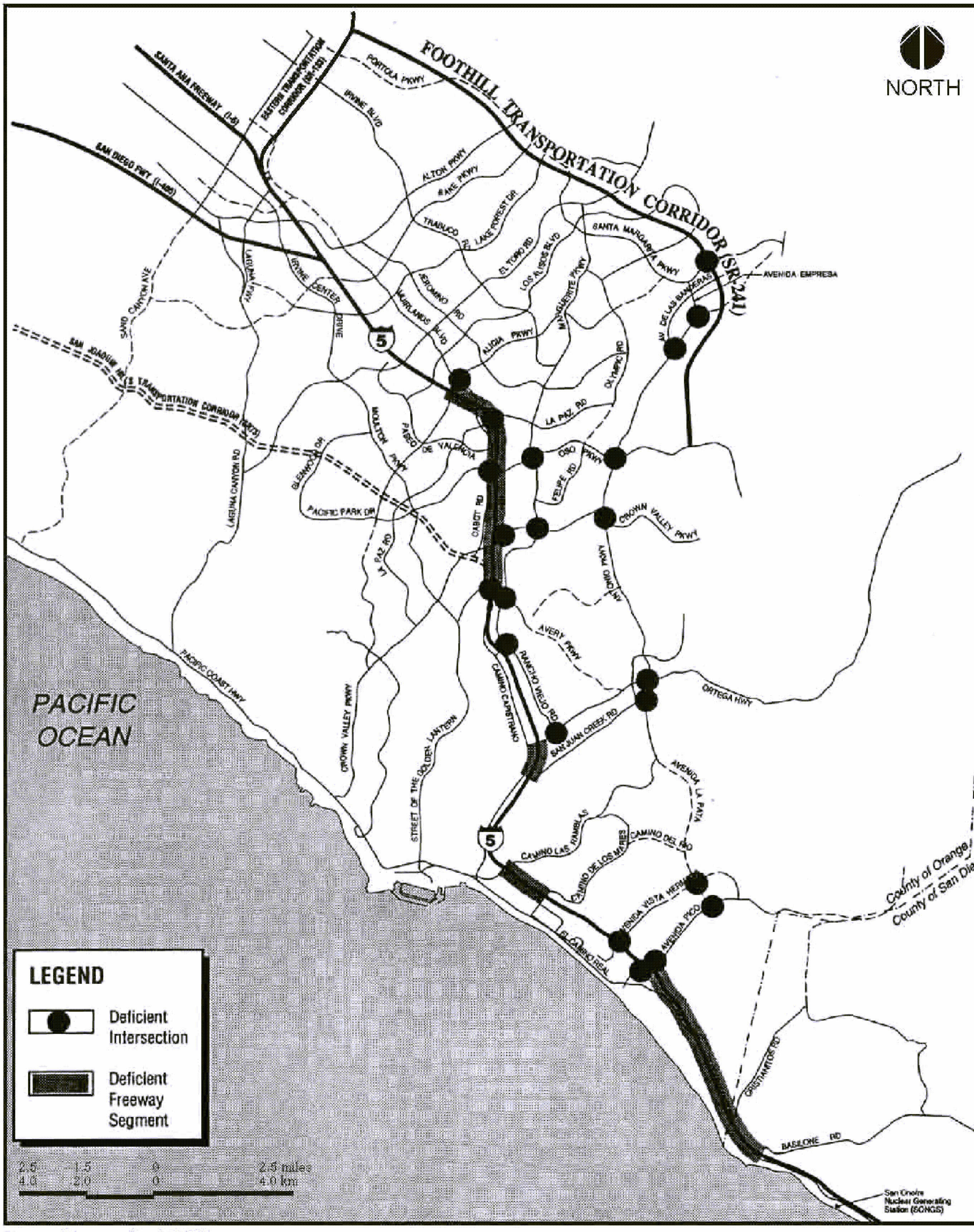
Level of Service D

Level of Service E

Level of Service F

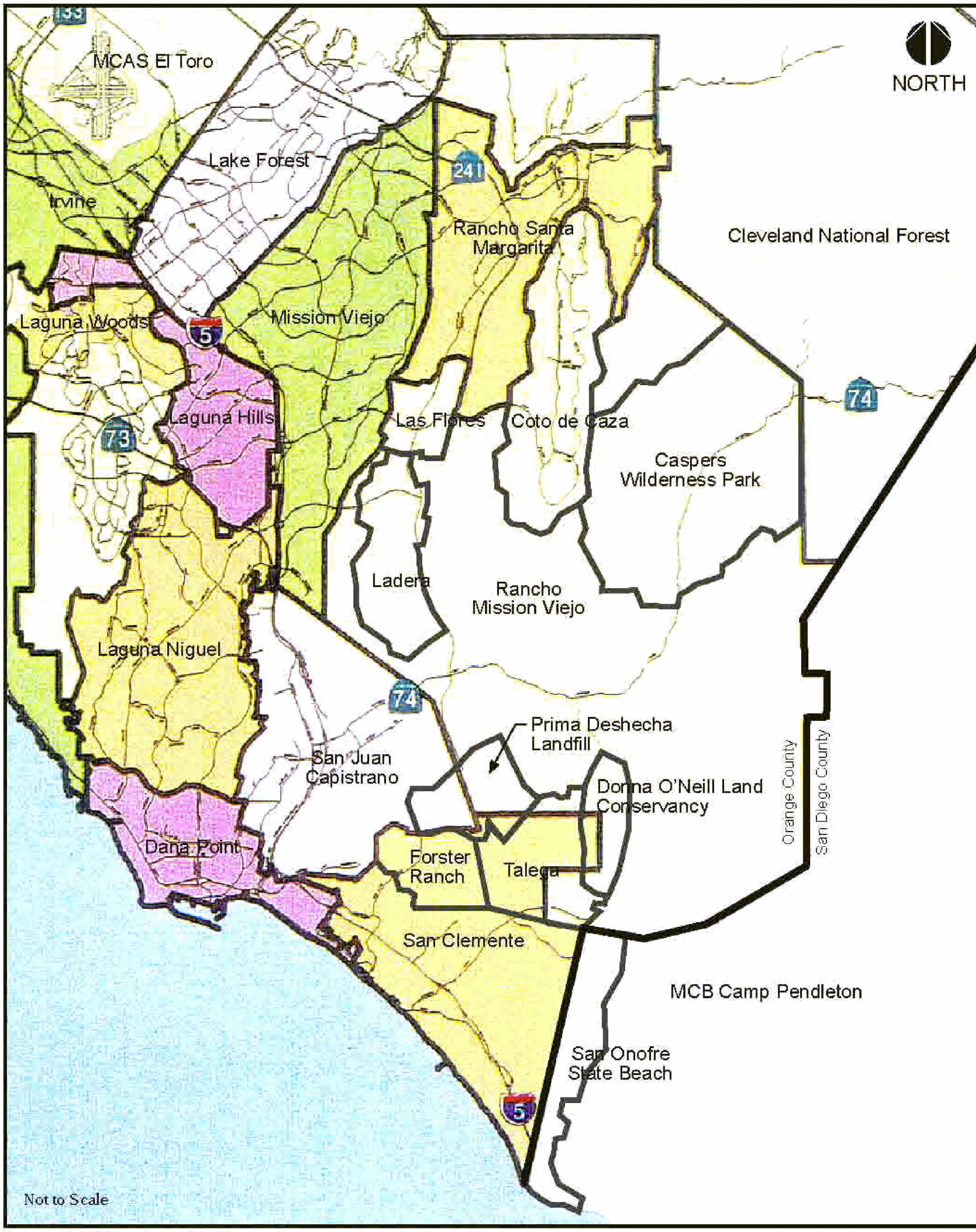
Source: Transportation Research Board, National Research Council, Washington, D.C. Exhibits 3-5 through 3-10 out of the Highway Capacity Manual, Special Report 209, (1994).

Level of Service Represention



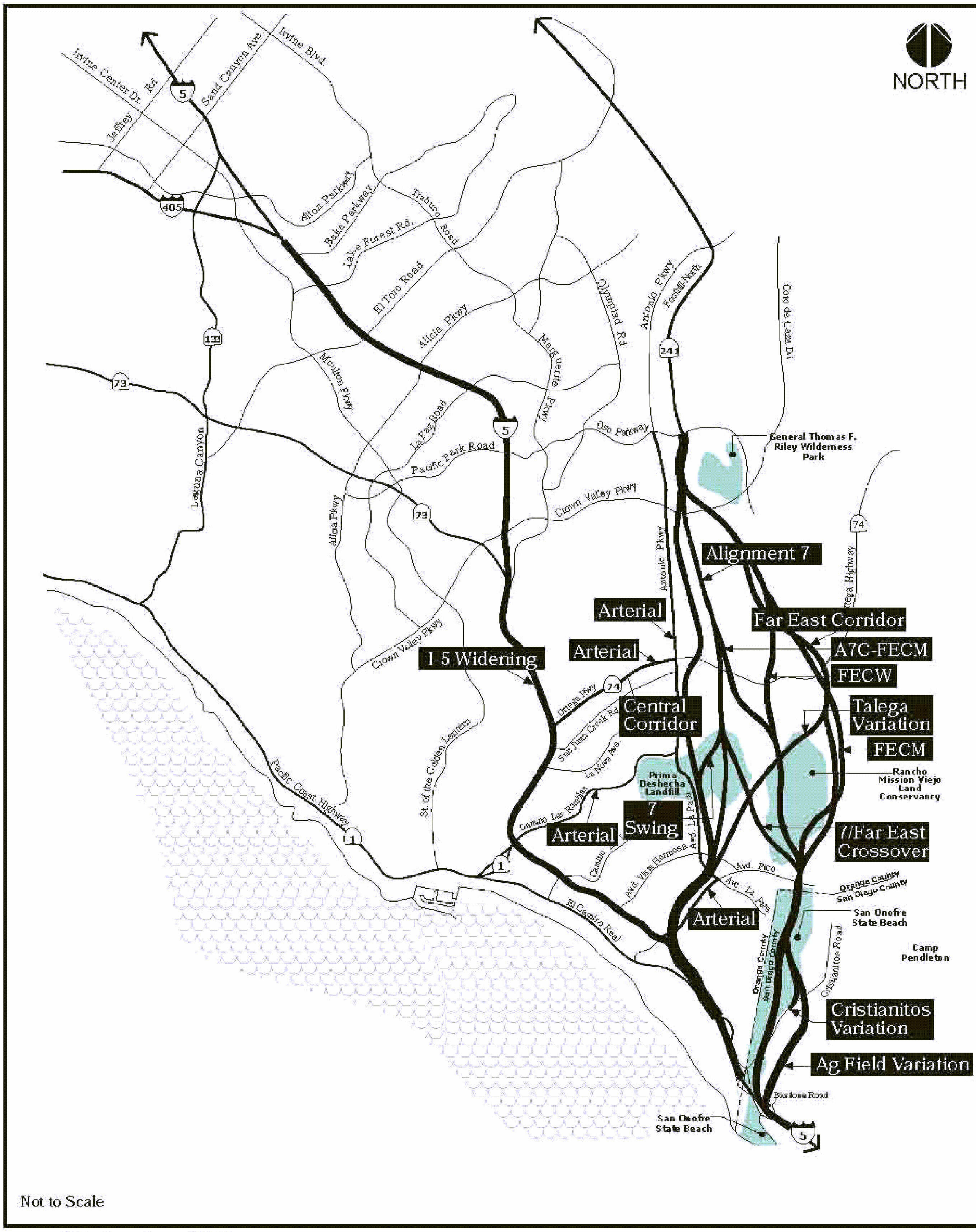
Source: Bonterra (April 1997).

2020 Highway Deficiencies with the No-Action Alternative (Long Range)



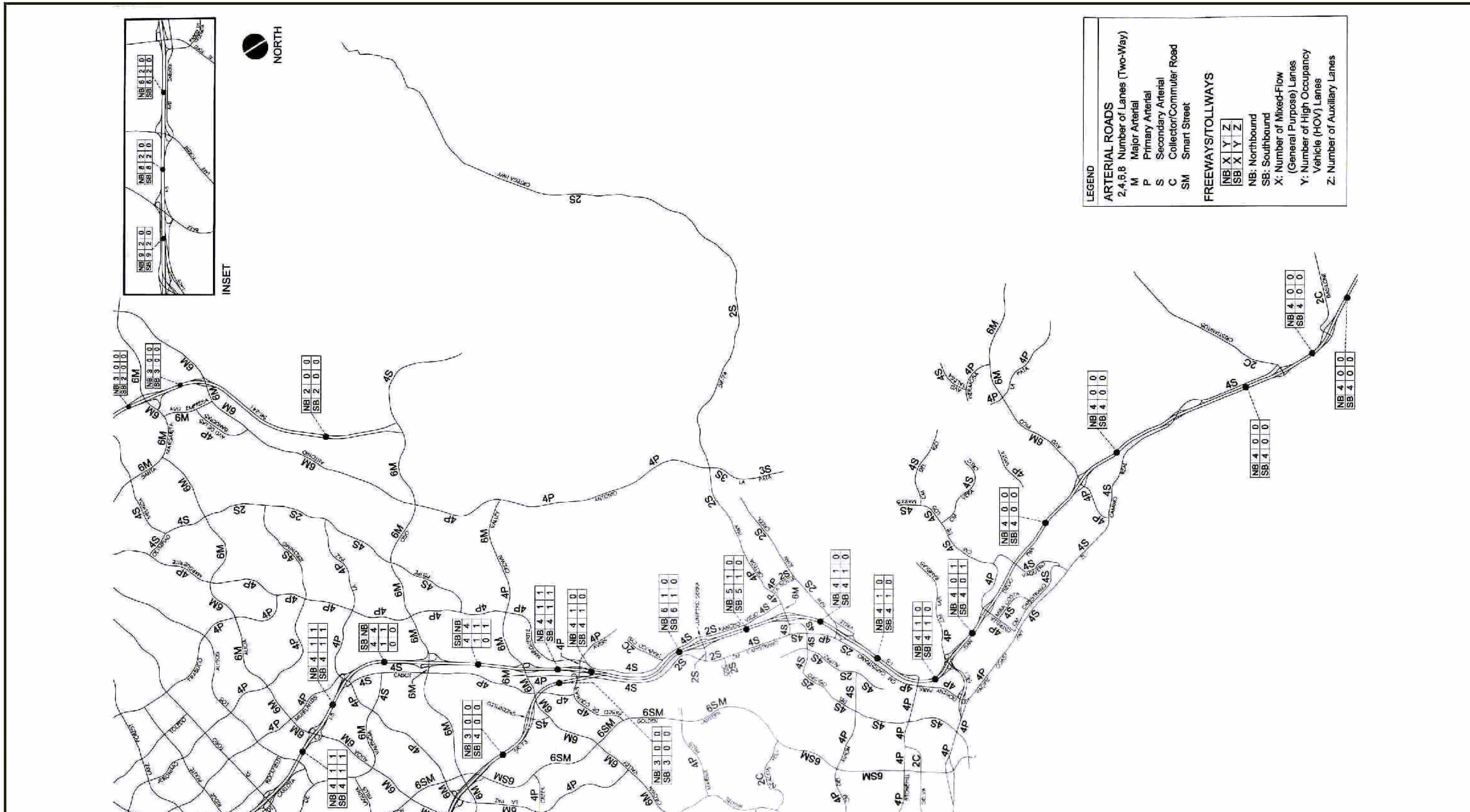
Source: P&D Consultants (2001).

Local Jurisdictions and Other Uses in the SOCTIIP Study Area



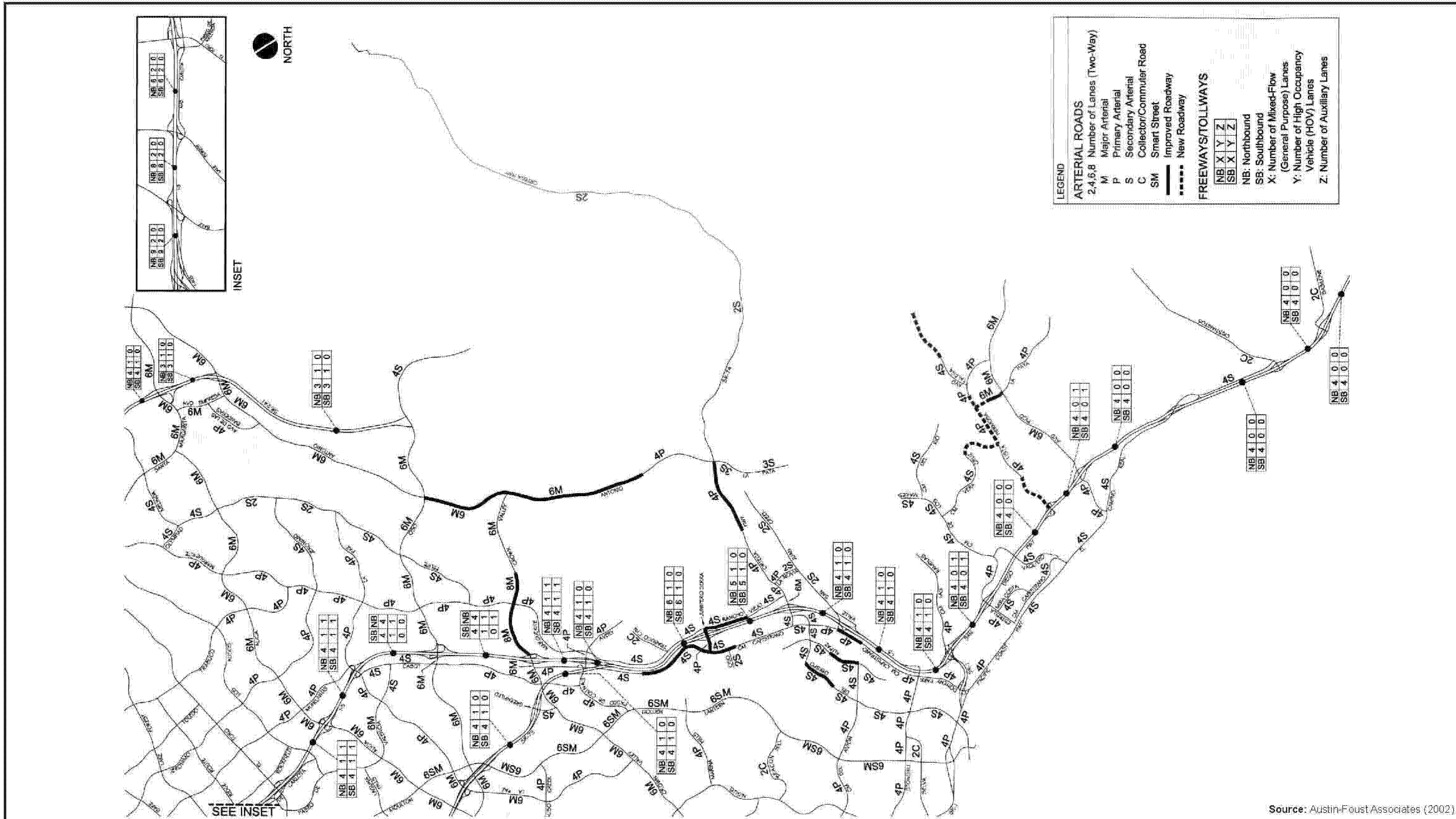
Source: P&D Consultants (2003).

Alignments of the Build Alternatives



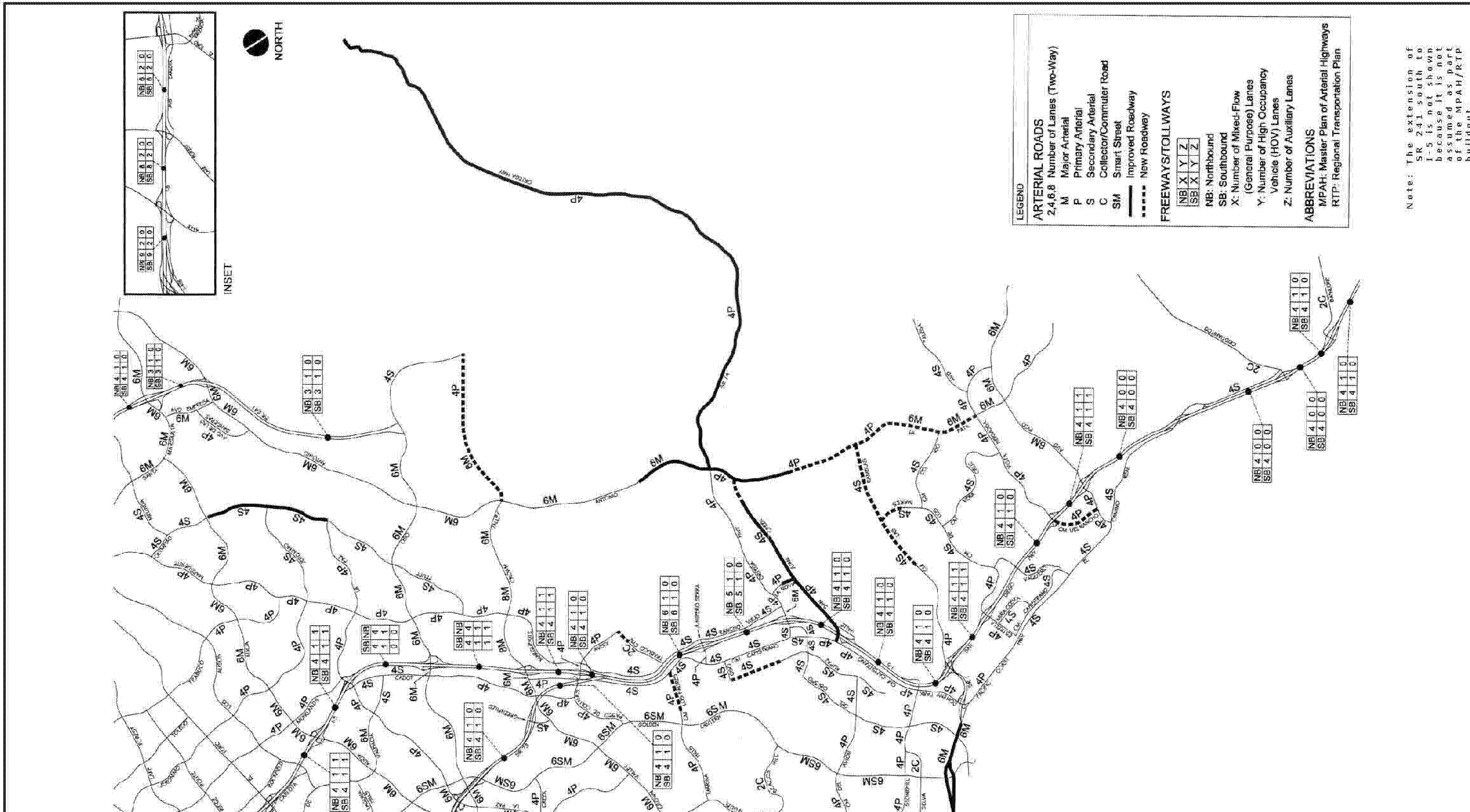
Source: Austin-Foust Associates (2002).

Existing Circulation System



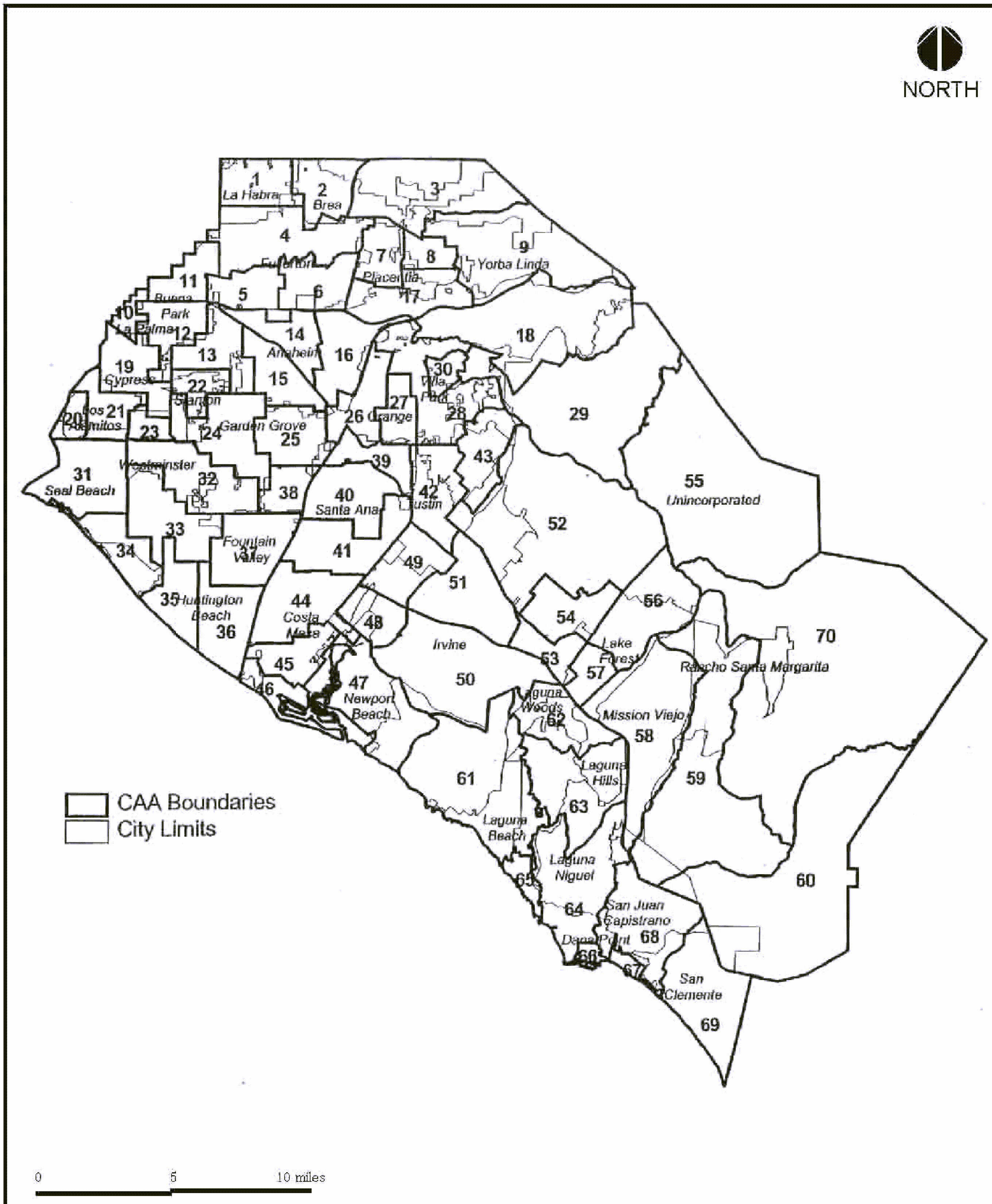
Source: Austin-Foust Associates (2002)

Committed Circulation System



Source: Austin-Foust Associates (2002).

MPAH/RTP Buildout Circulation System

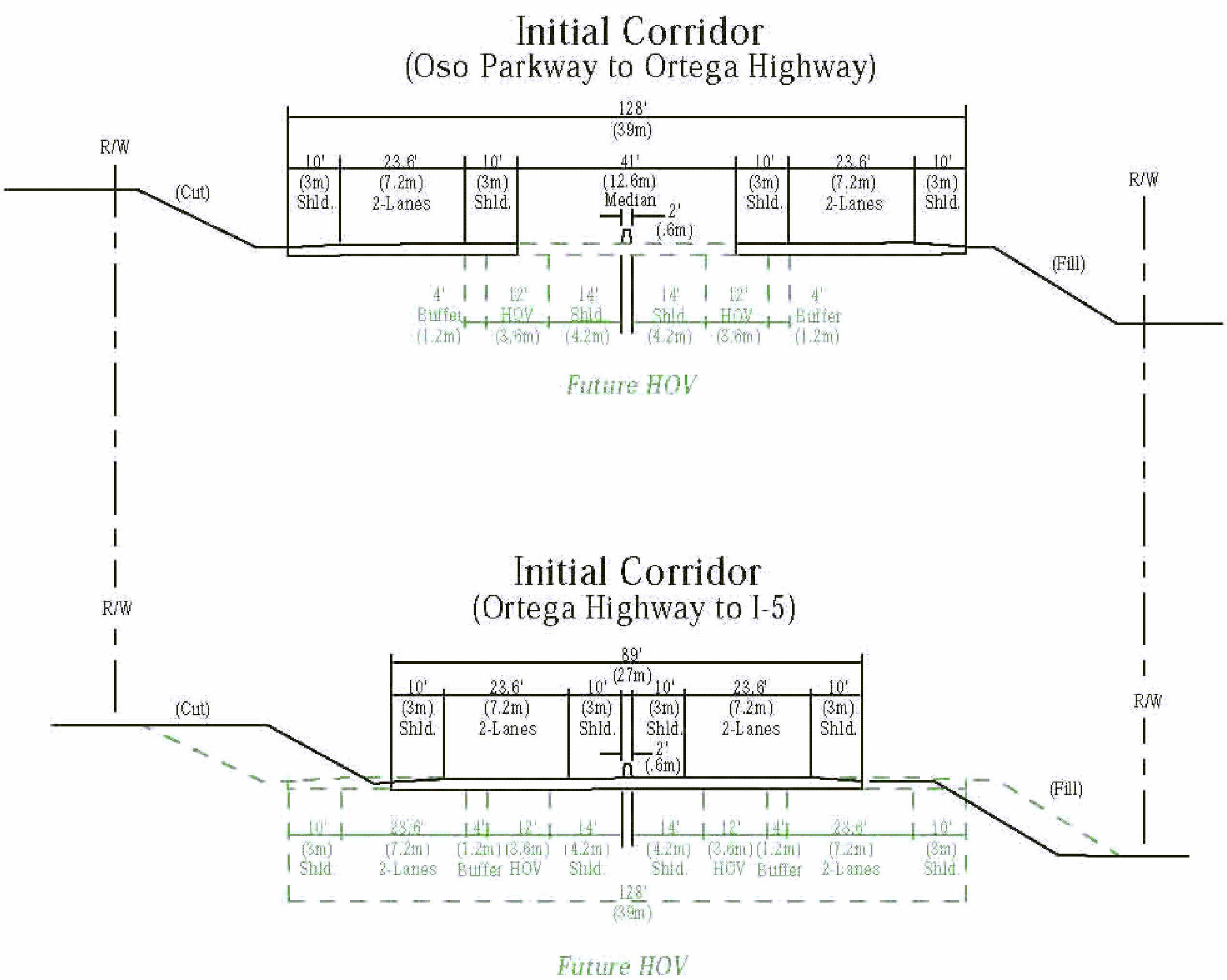


Source: Orange County Projections 2000 (Center for Demographic Research, September 2000).

Orange County Community Analysis Areas

Source: OCTA (2002).

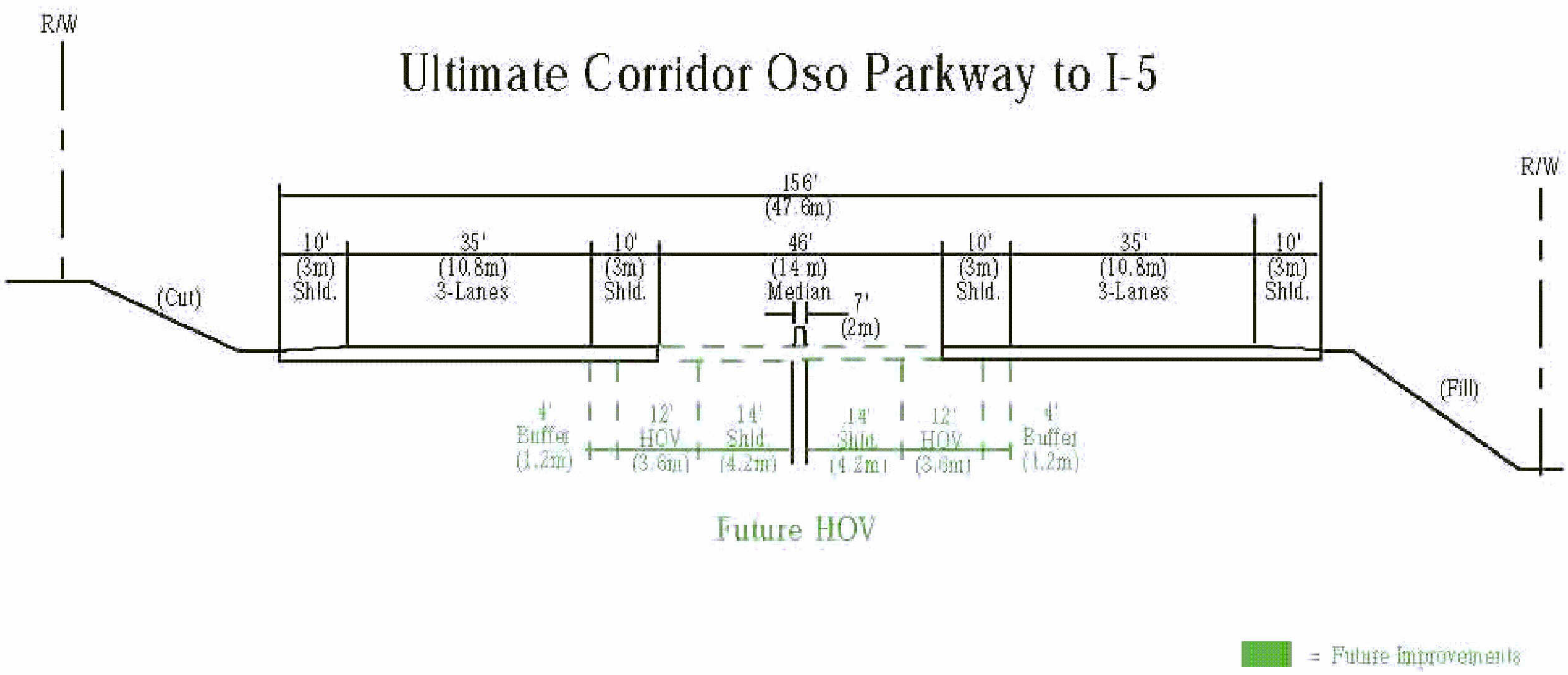
Transit Services



Source: CDMG (2002).

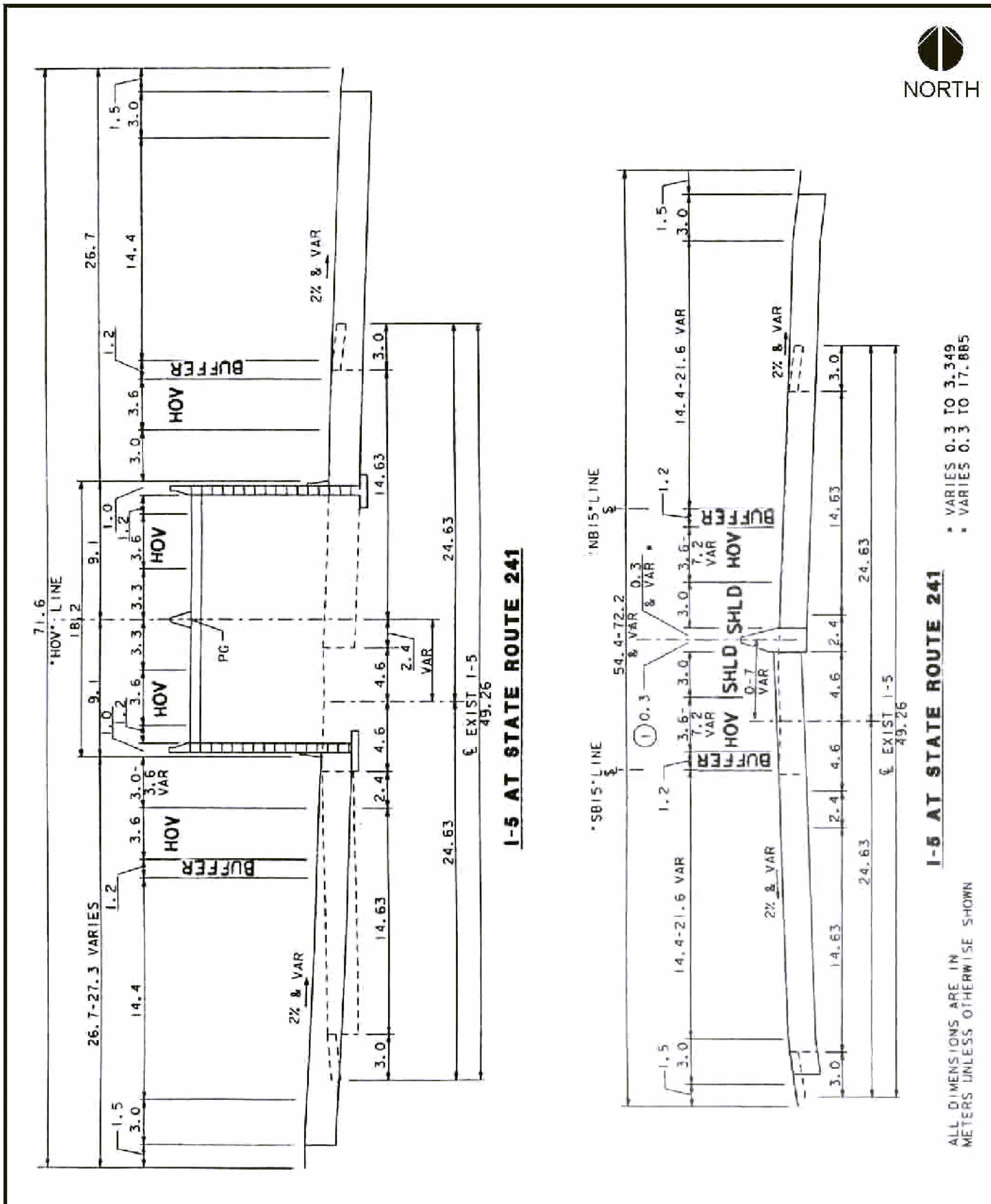
Typical Corridor Cross Sections

Ultimate Corridor Oso Parkway to I-5



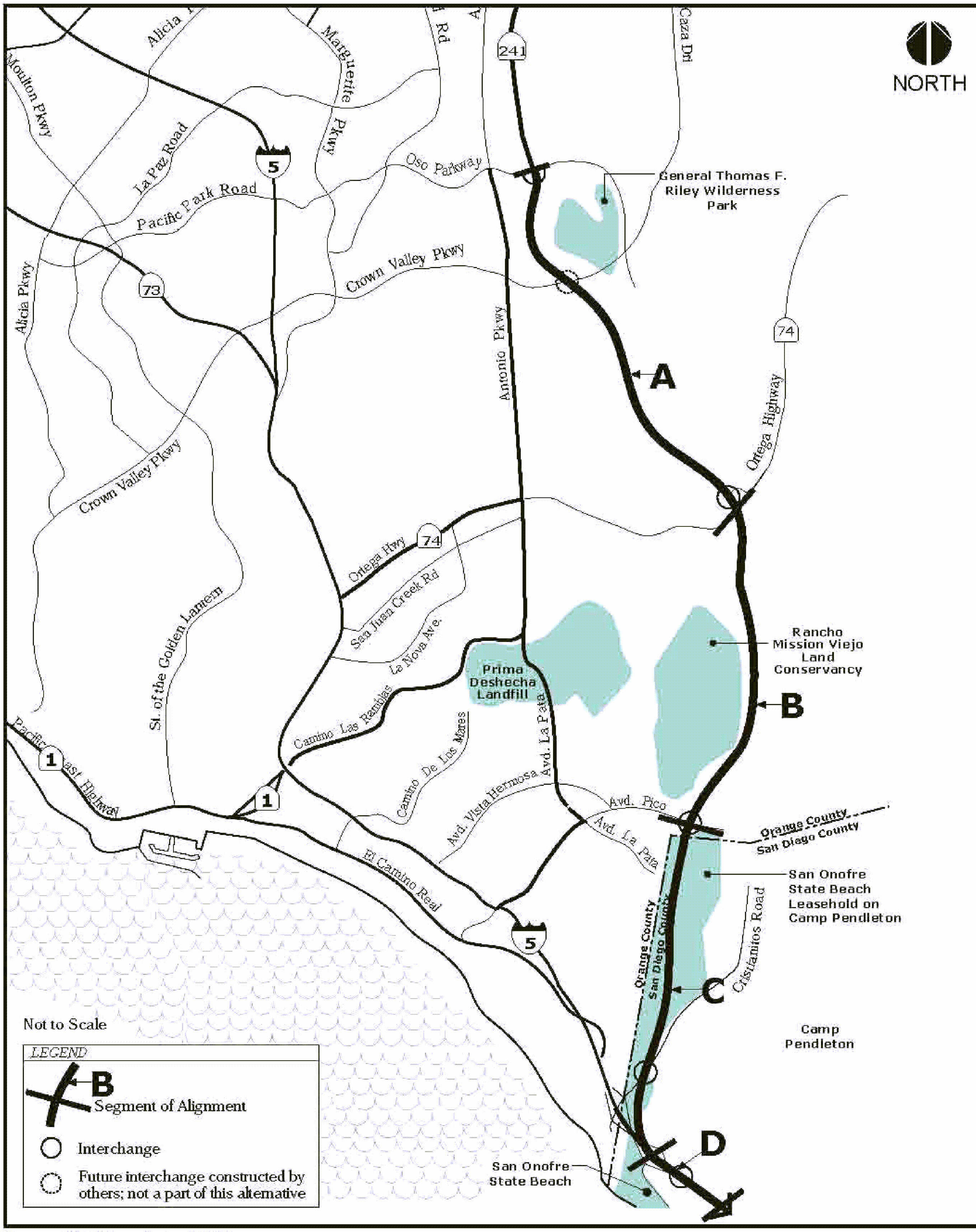
Source: CDMG (2002).

Typical Corridor Cross Sections



Source: CDMG (2003).

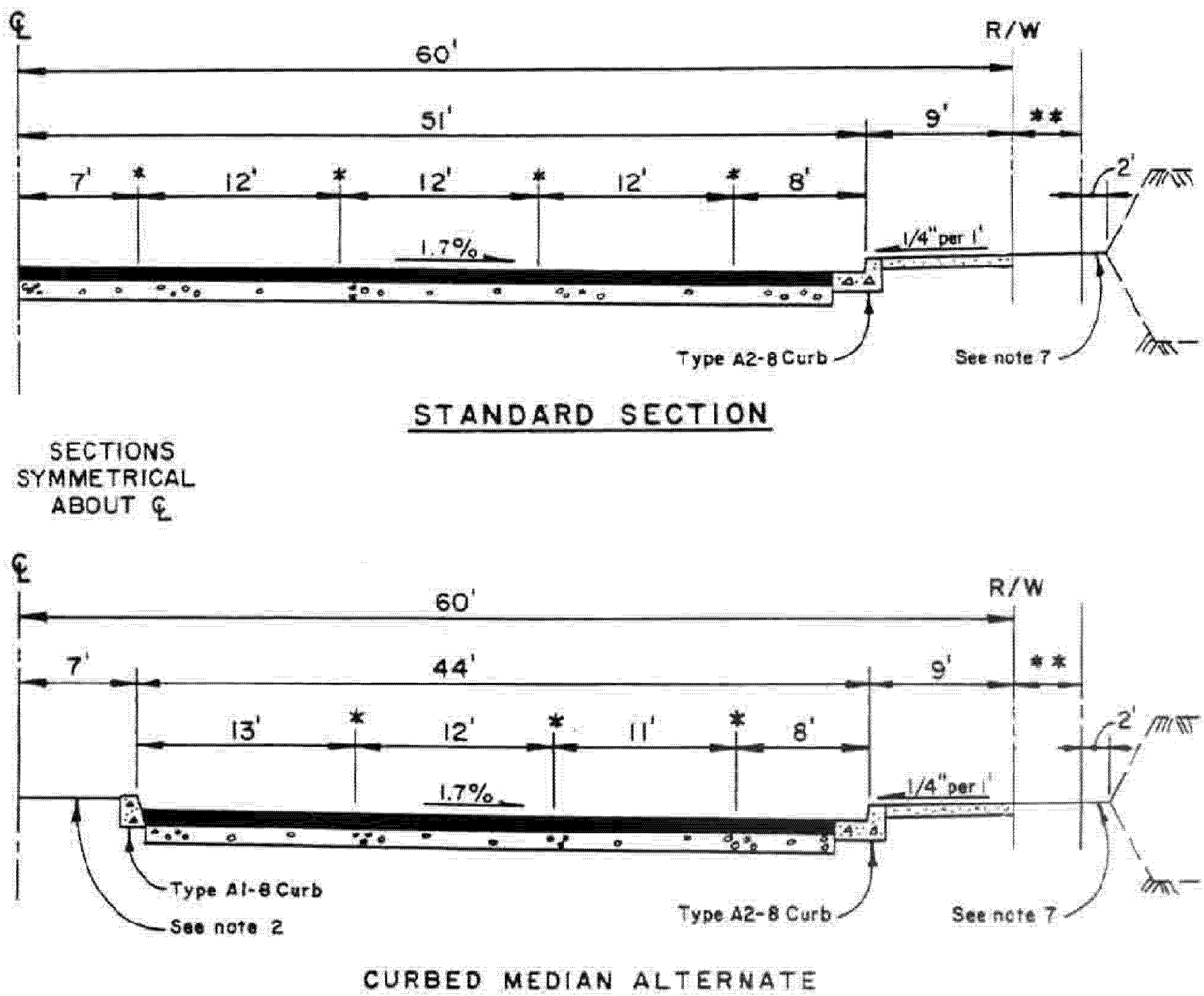
Typical Cross Section for I-5 Improvements Under the Corridor Alternatives



Source: P&D Consultants (2001).

Alignment of the Far East Corridor-Complete Alternatives

NORTH

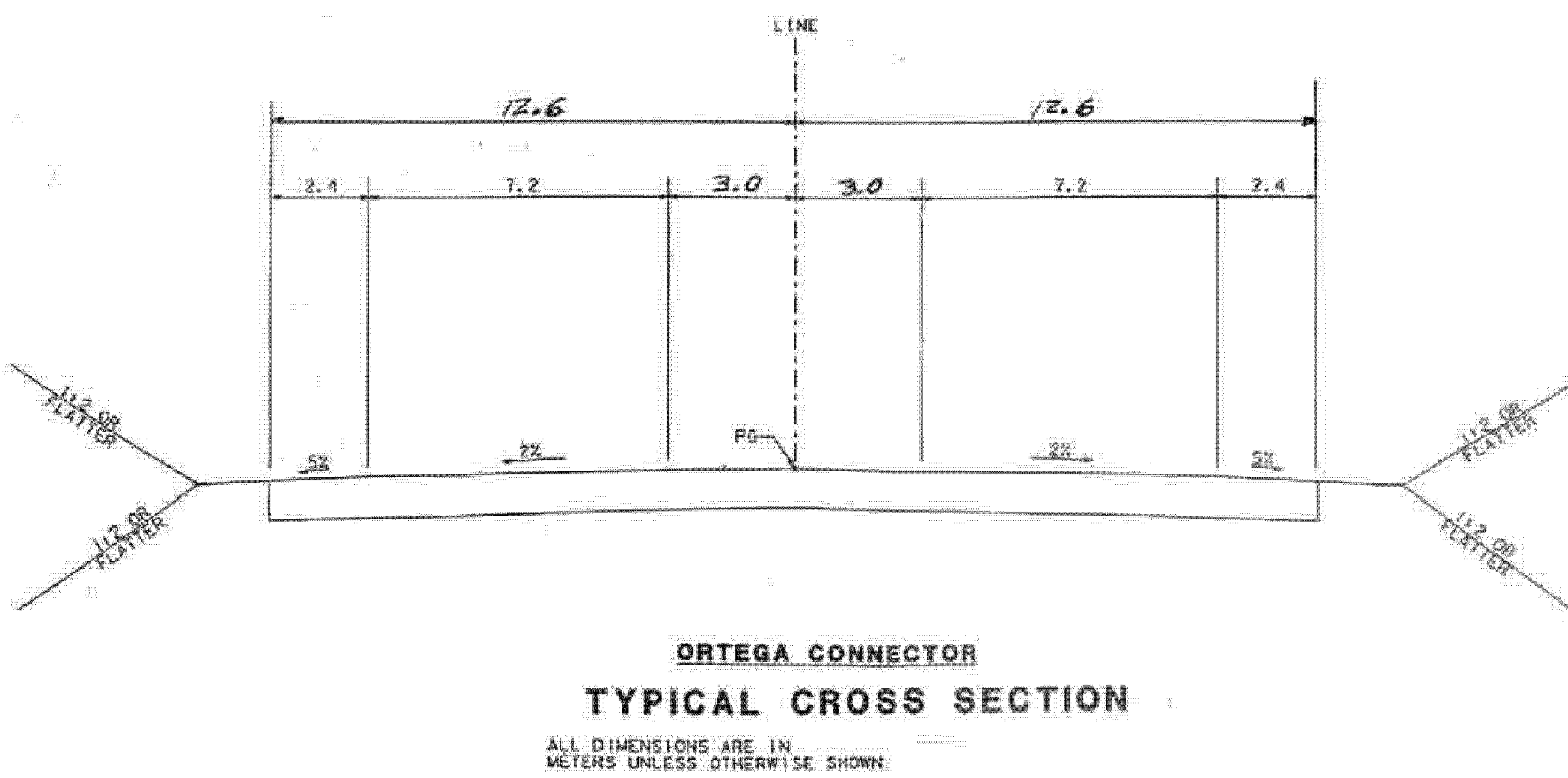


* Longitudinal joint for finish course A.C.

** Additional right of way may be required when an arterial highway coincides with an adopted route for an additional public facility (i.e., pedestrian, bicycle, or equestrian trail), or for a scenic highway.

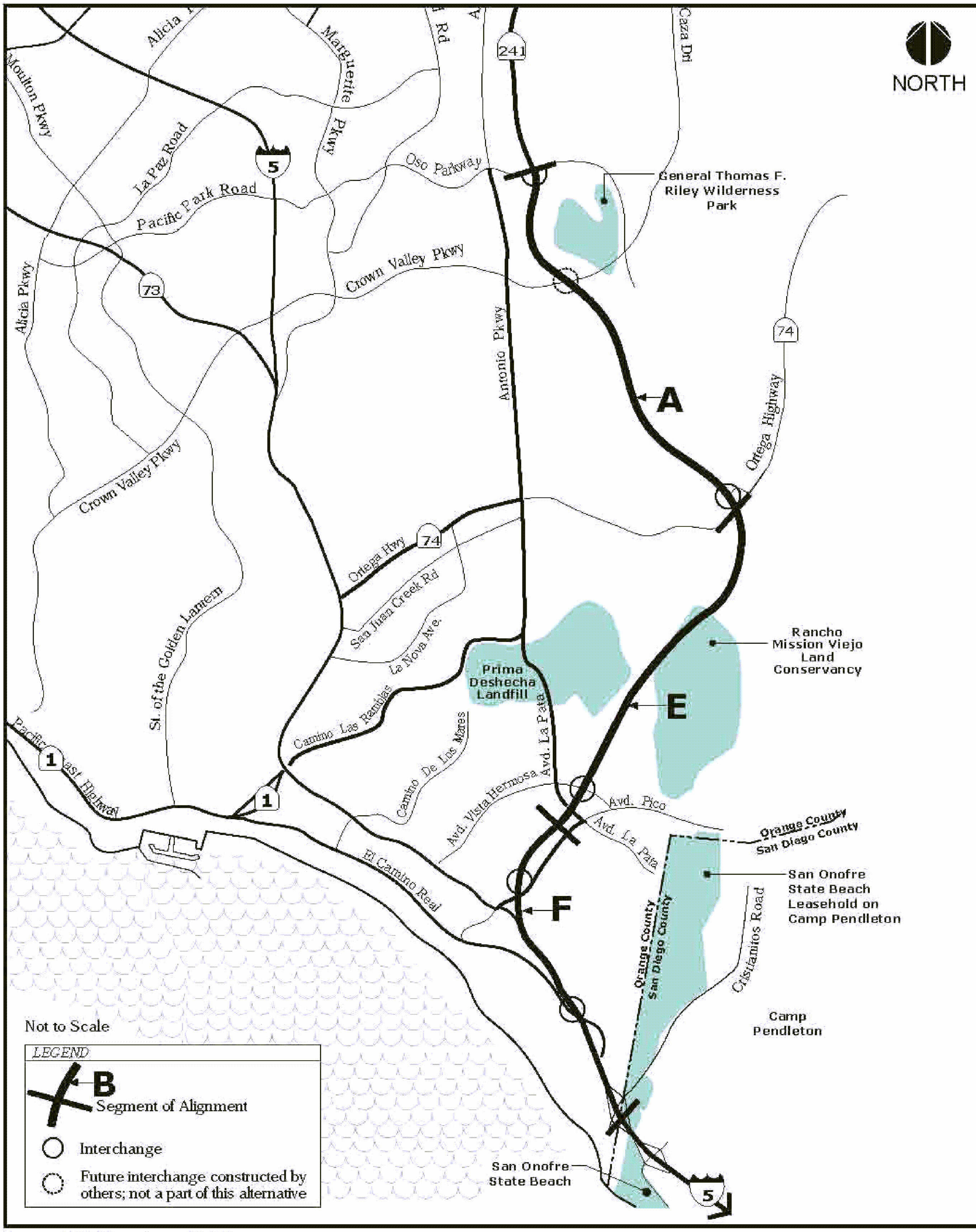
Source: Standard Plan Reference, Standard Plan 1101 (County of Orange).

Typical Cross Section for a Six Lane Major Arterial



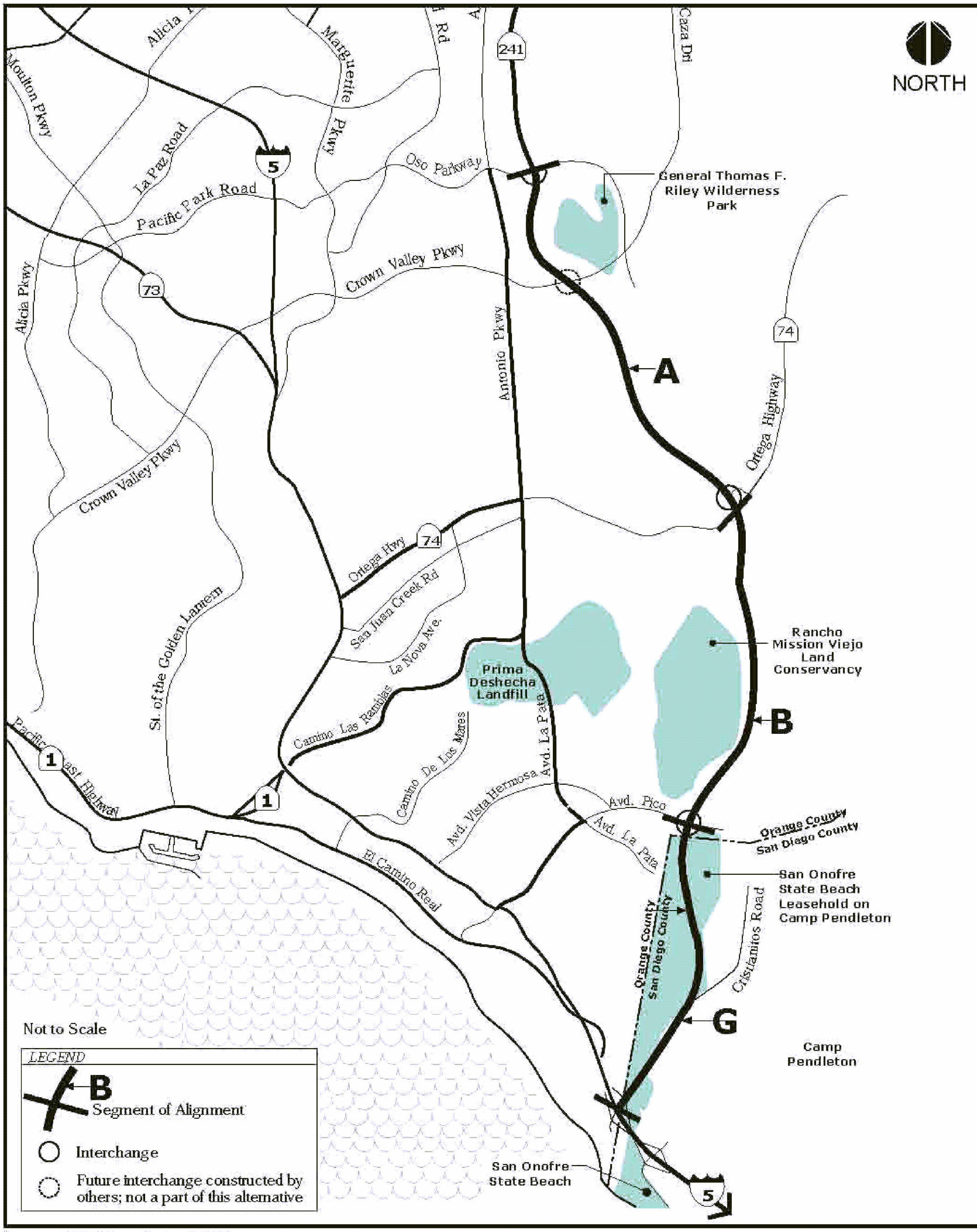
Source: CDMG (2003).

Typical Cross Section for the Ortega Highway and A7C Connector Roads



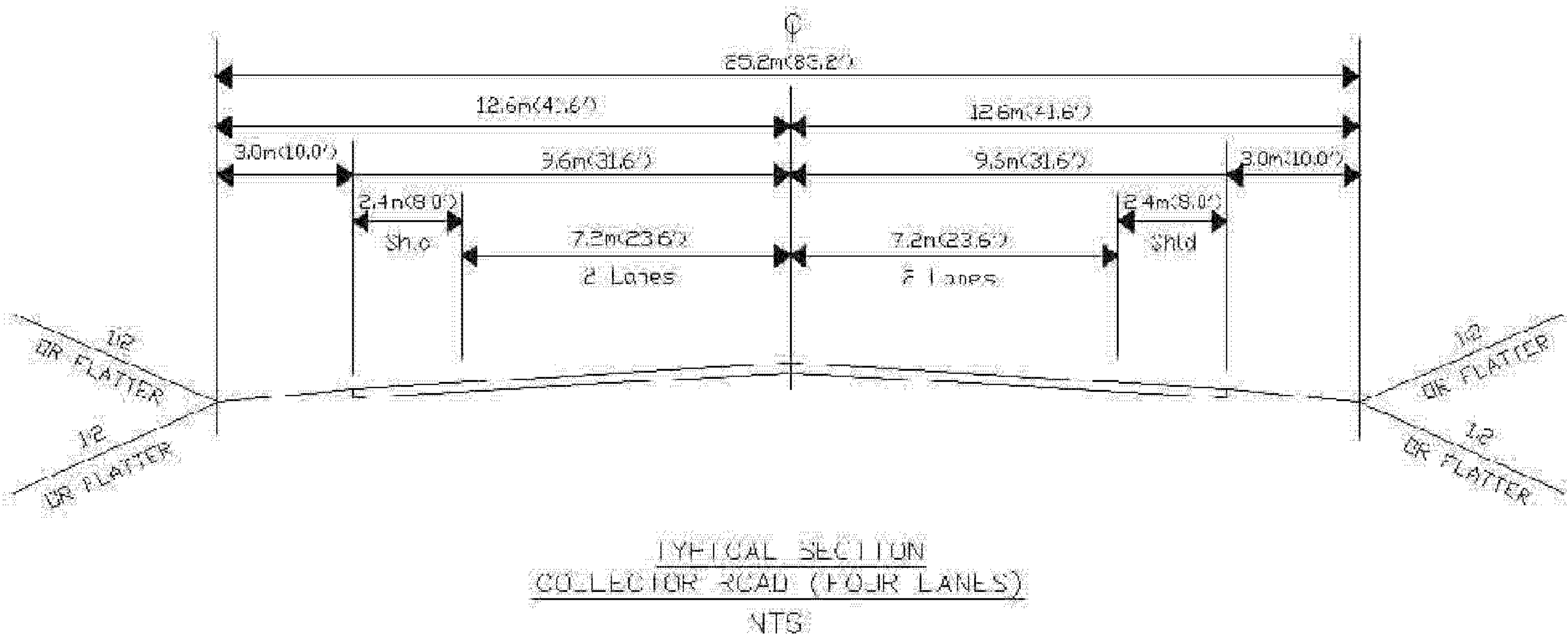
Source: P&D Consultants (2001).

Alignment of the Far East Corridor - Talega Variation Alternatives



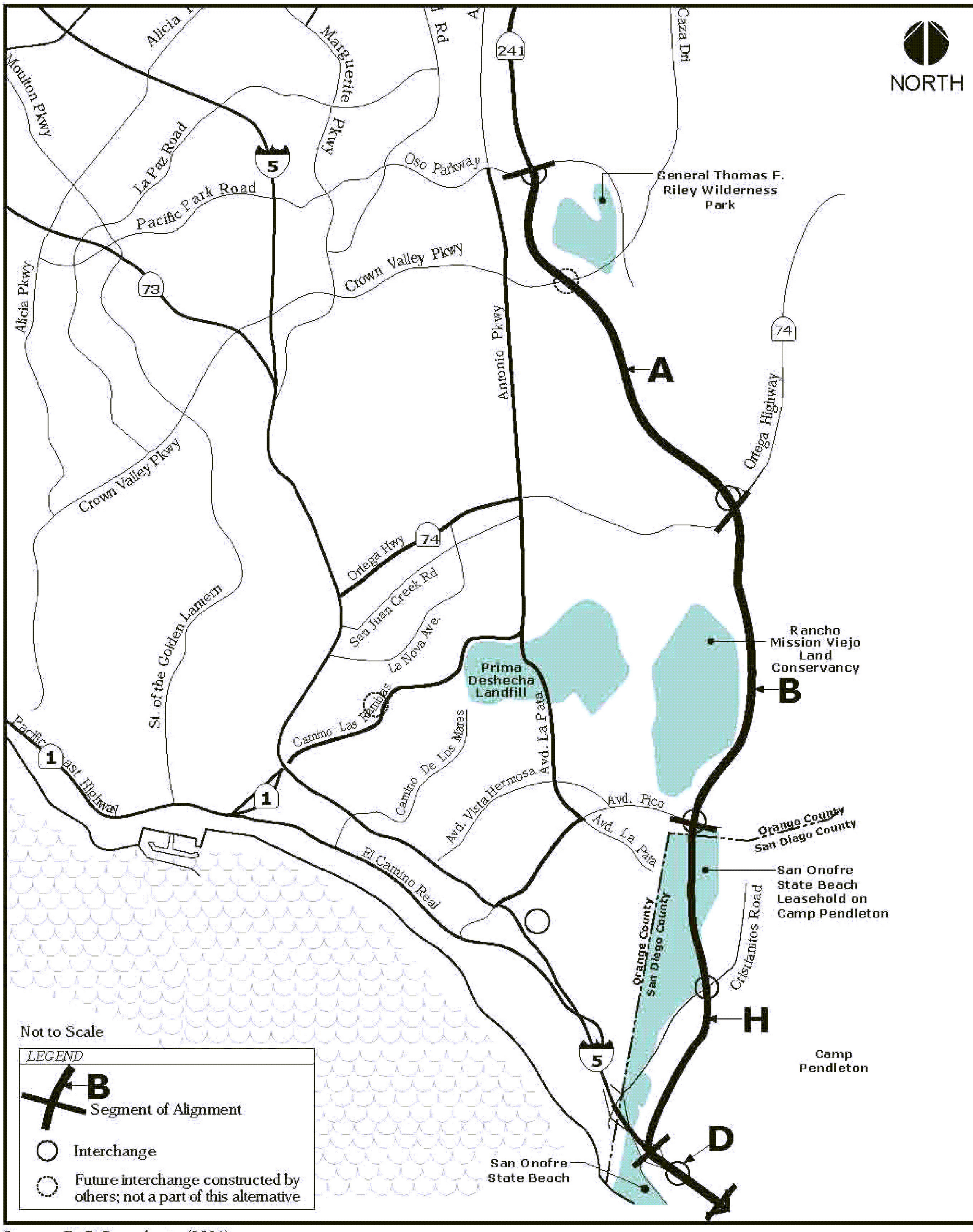
Source: P&D Consultants (2001).

Alignment of the Far East Corridor - Cristianitos Variation Alternatives



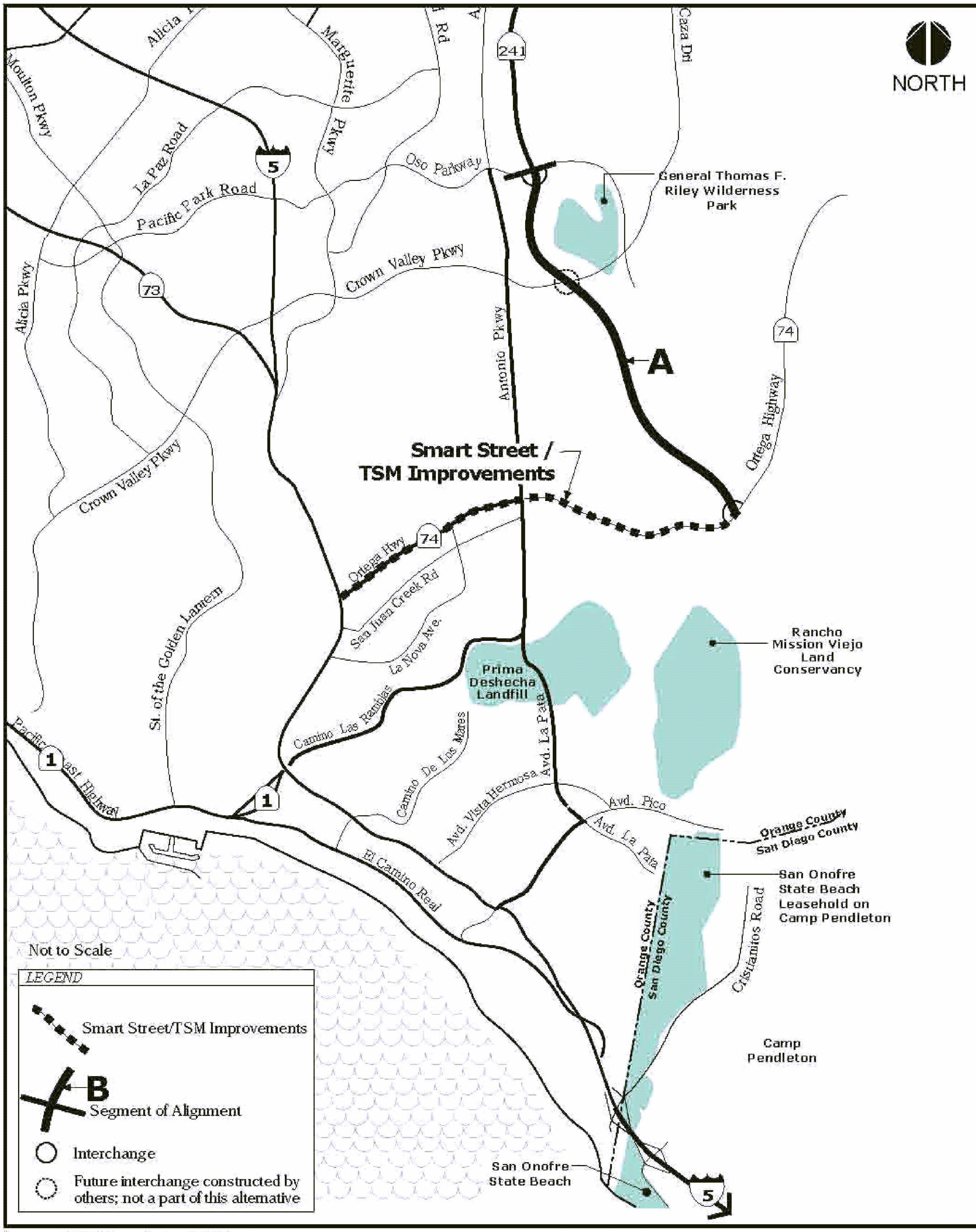
Source: CDMG (2002).

Typical Cross Section for a Collector Road (Secondary Arterial, Four Lanes)



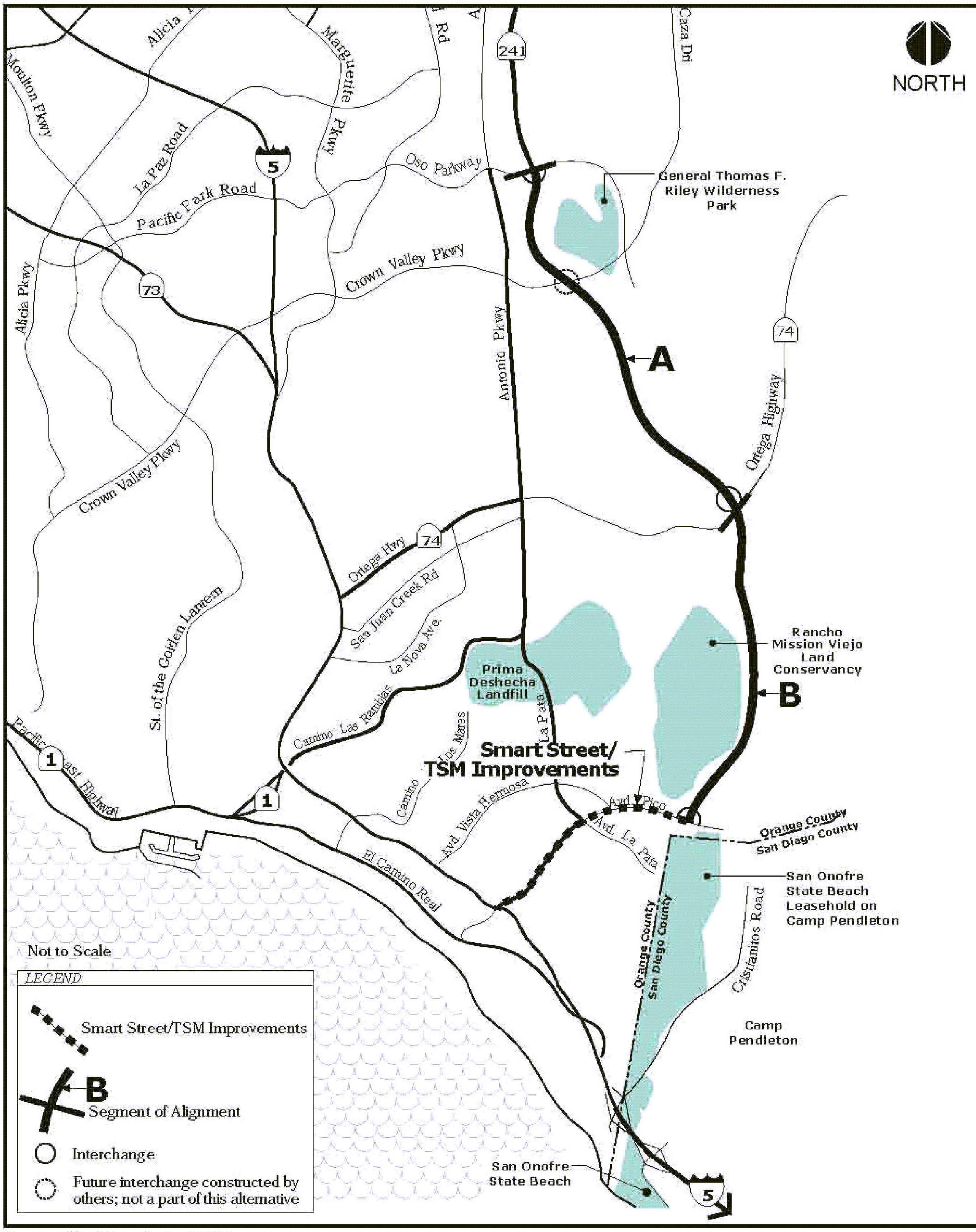
Source: P&D Consultants (2001).

Alignment of the Far East Corridor - Agricultural Fields Variation Alternatives



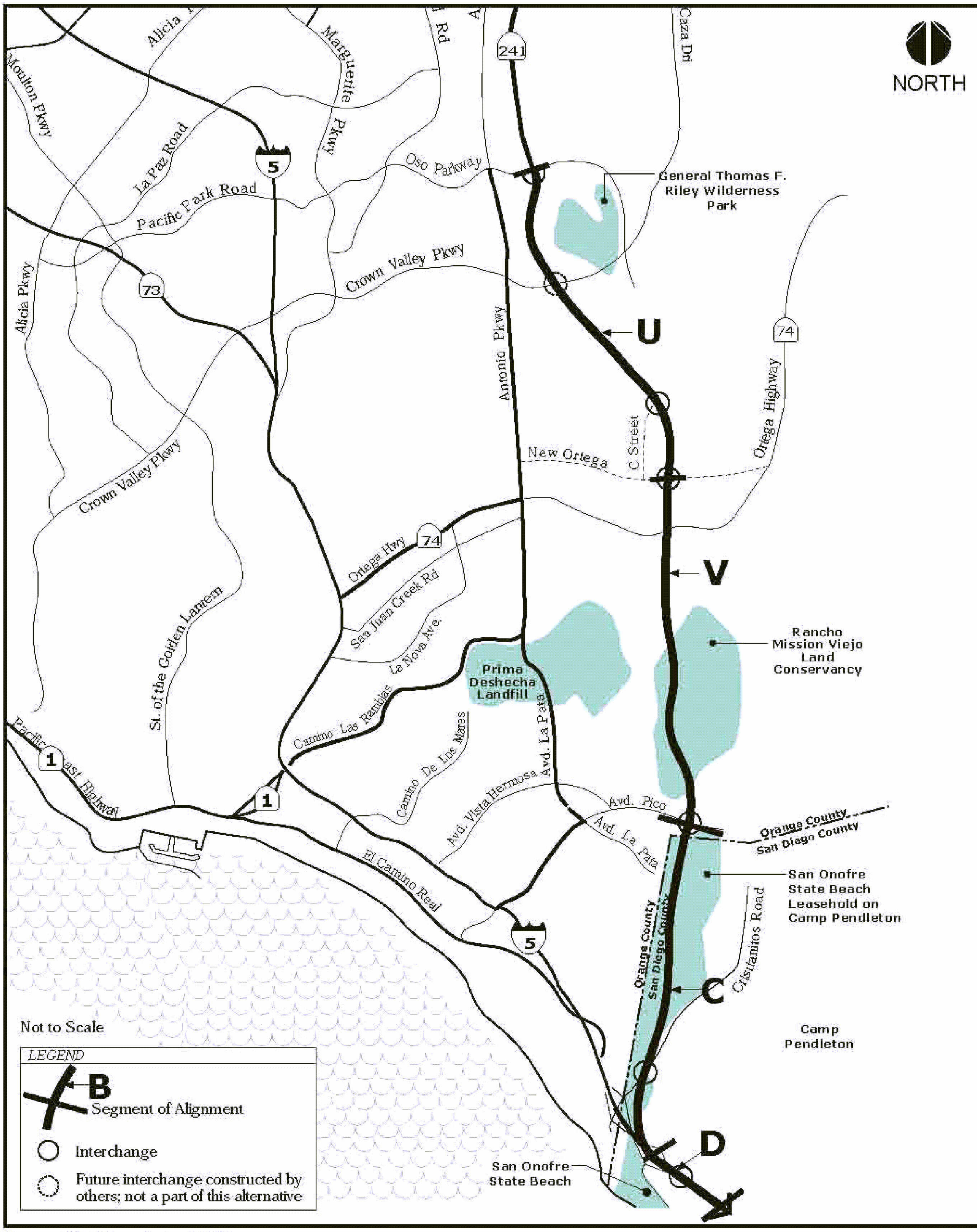
Source: P&D Consultants (2001).

Alignment of the Far East Corridor - Ortega Highway Variation Alternatives



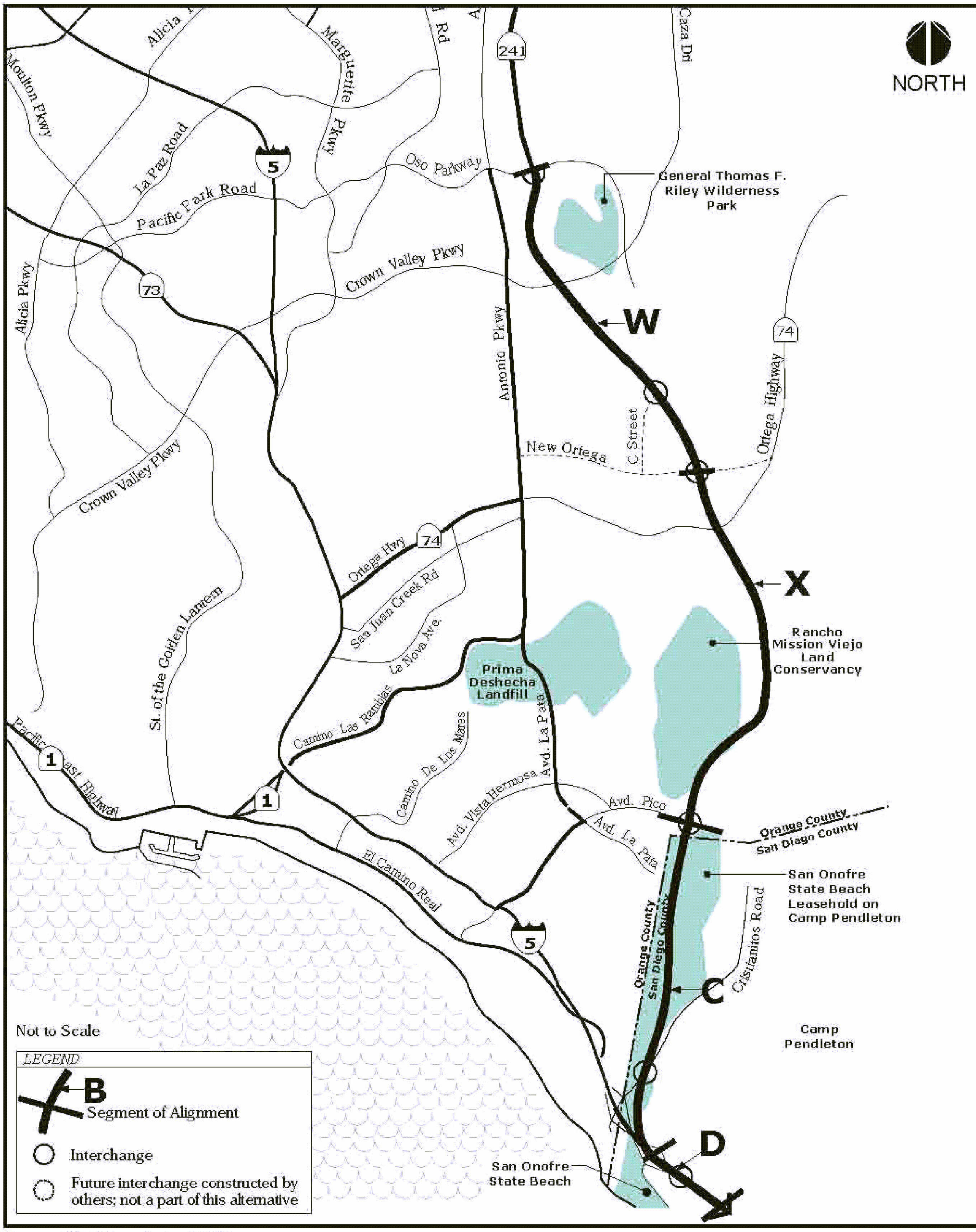
Source: P&D Consultants (2001).

Alignment of the Far East Corridor - Avenida Pico Variation Alternatives



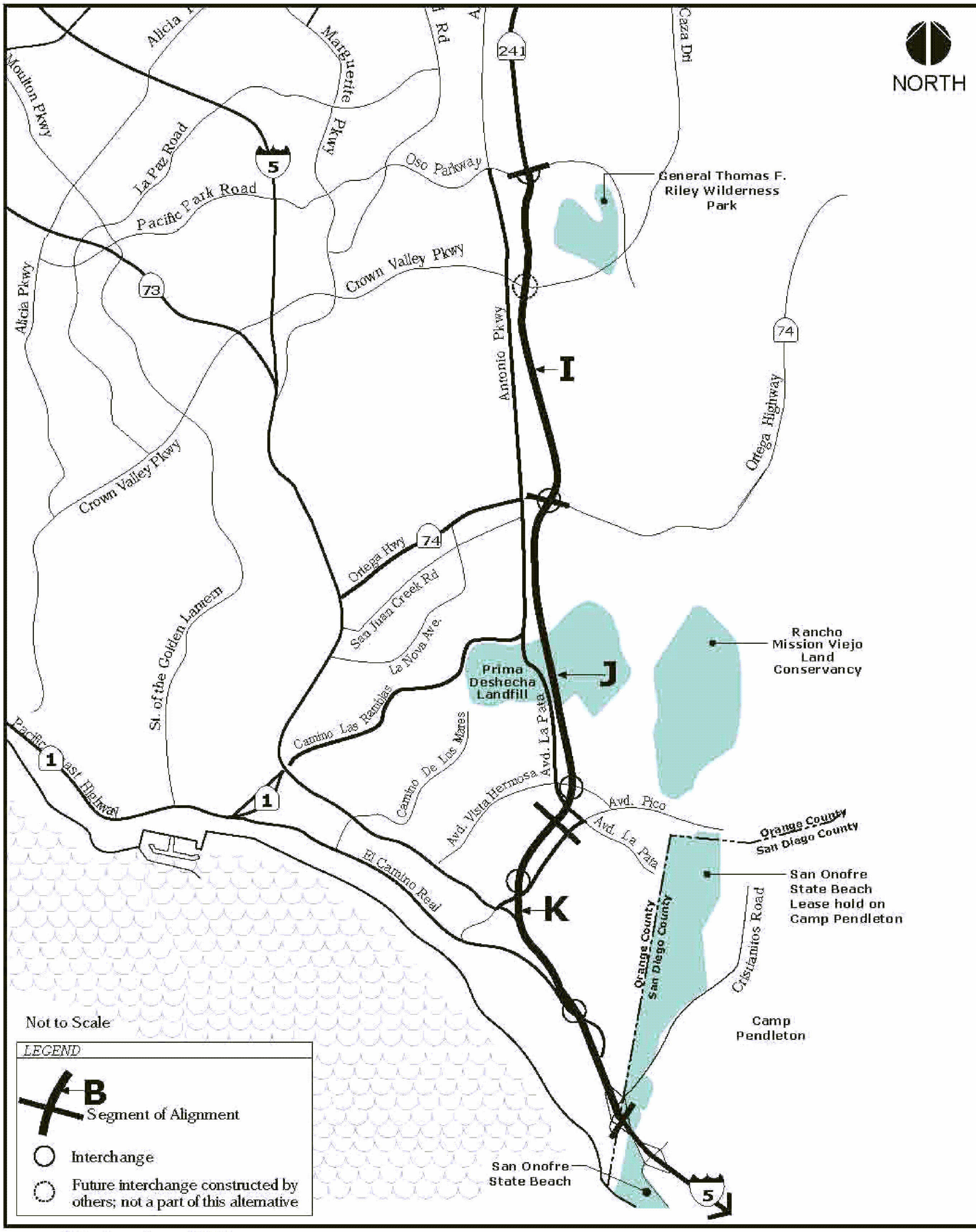
Source: P&D Consultants (2003).

Alignment of the Far East Corridor-West Alternatives



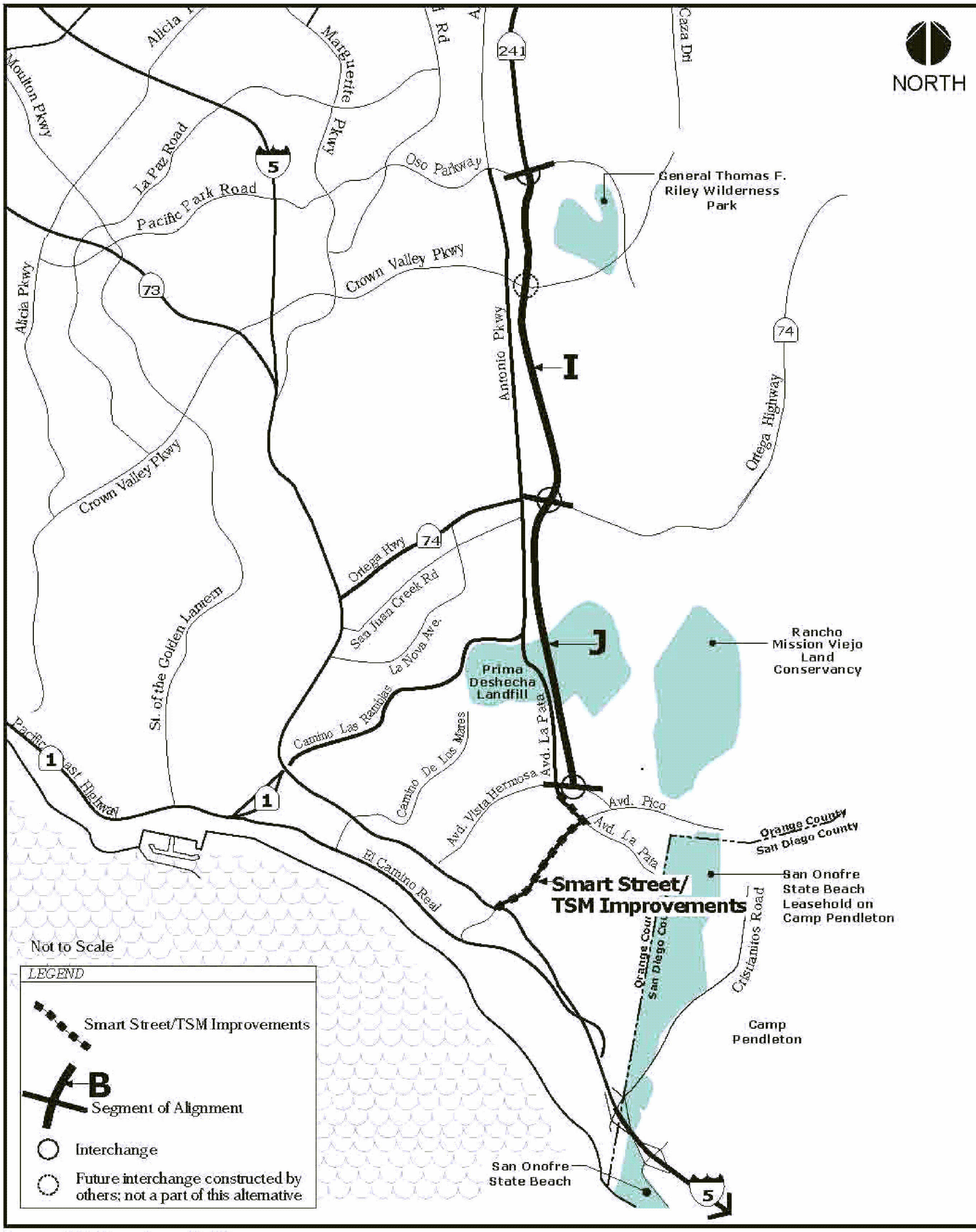
Source: P&D Consultants (2003).

Alignment of the Far East Corridor-Modified Alternatives



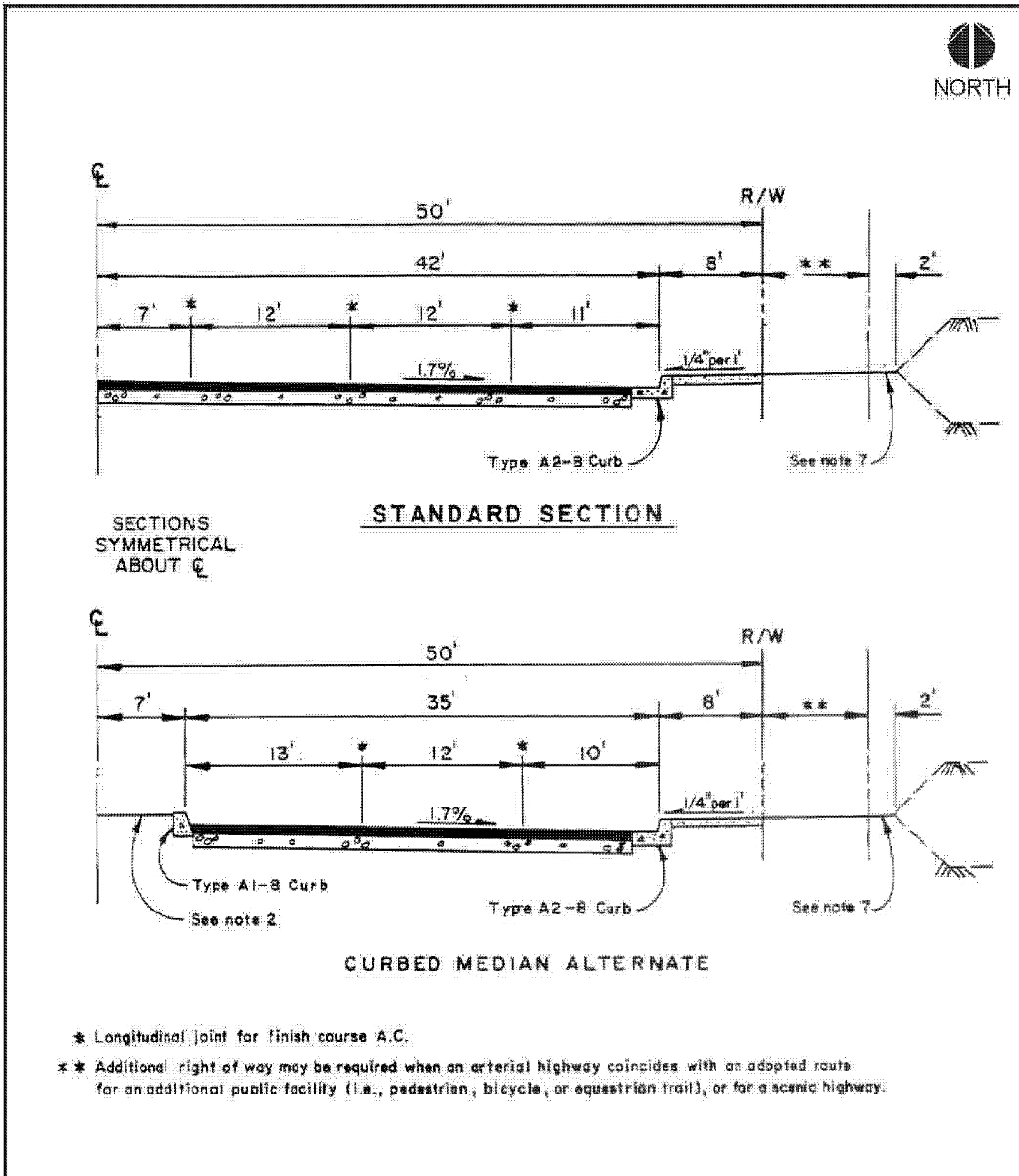
Source: P&D Consultants (2001).

Alignment of the Central Corridor - Complete Alternatives



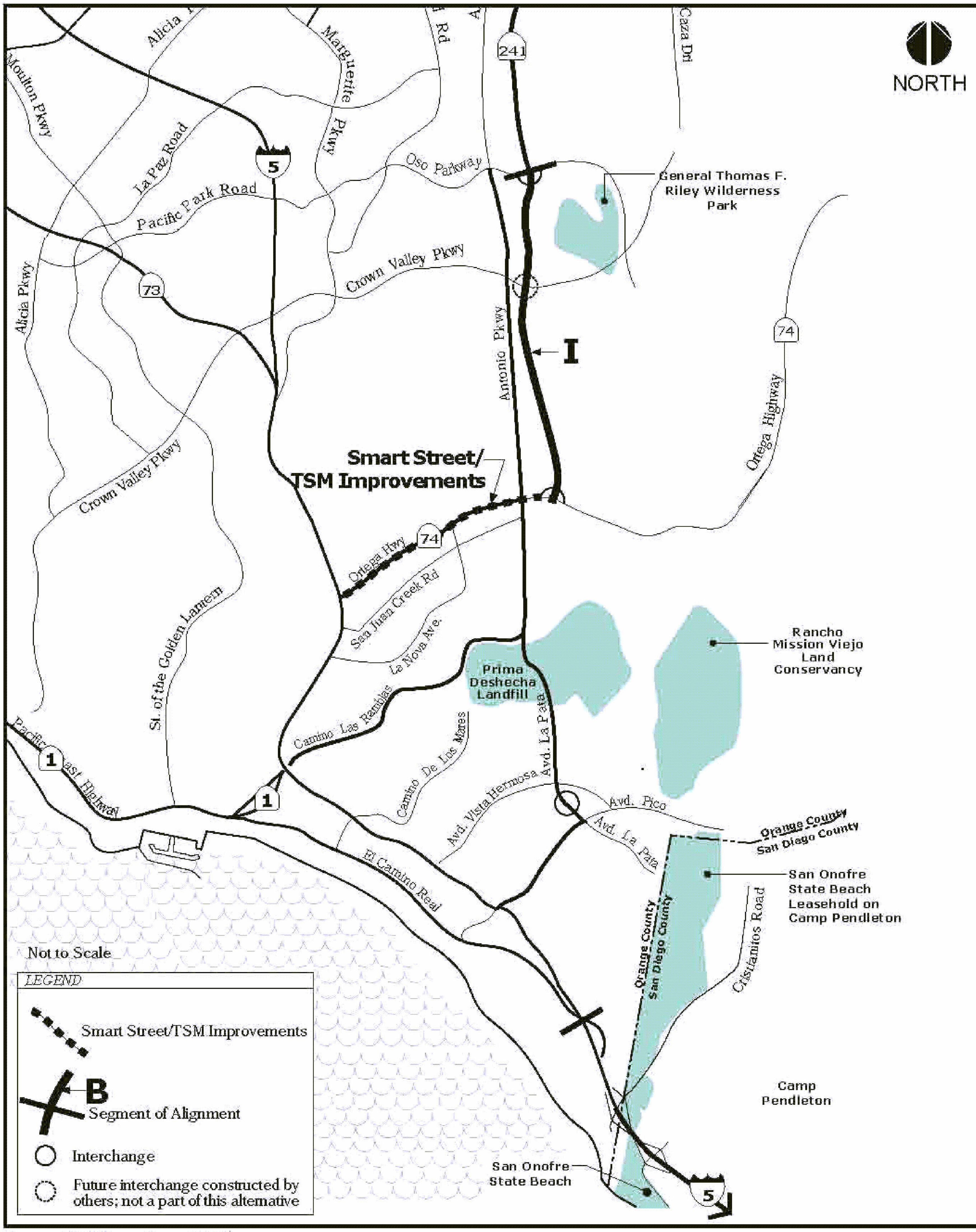
Source: P&D Consultants (2001).

Alignment of the Central Corridor - Avenida La Pata Variation Alternatives



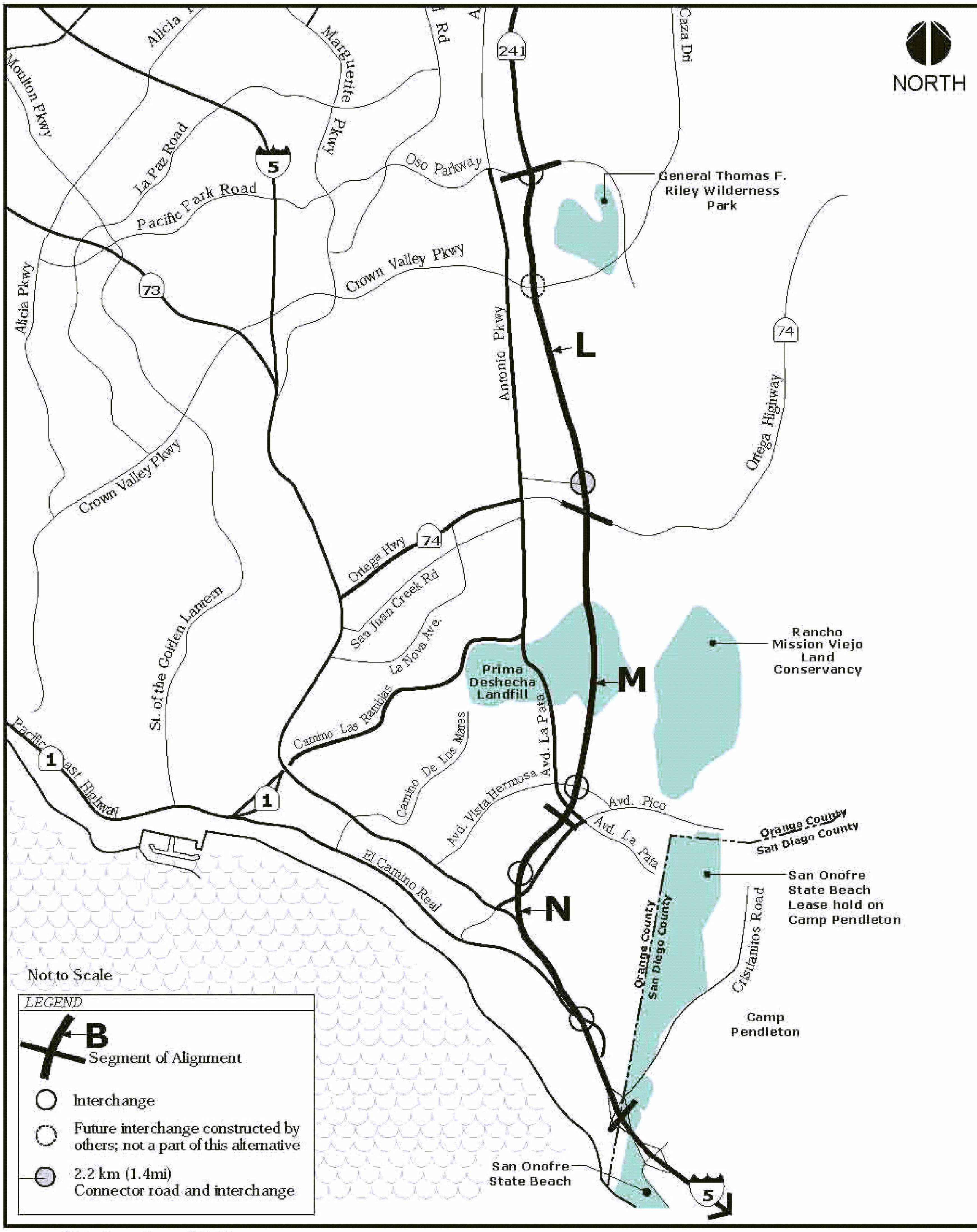
Source: Standard Plan Reference, Standard Plan 1103 (County of Orange).

Typical Cross Section for a Four Lane Primary Arterial



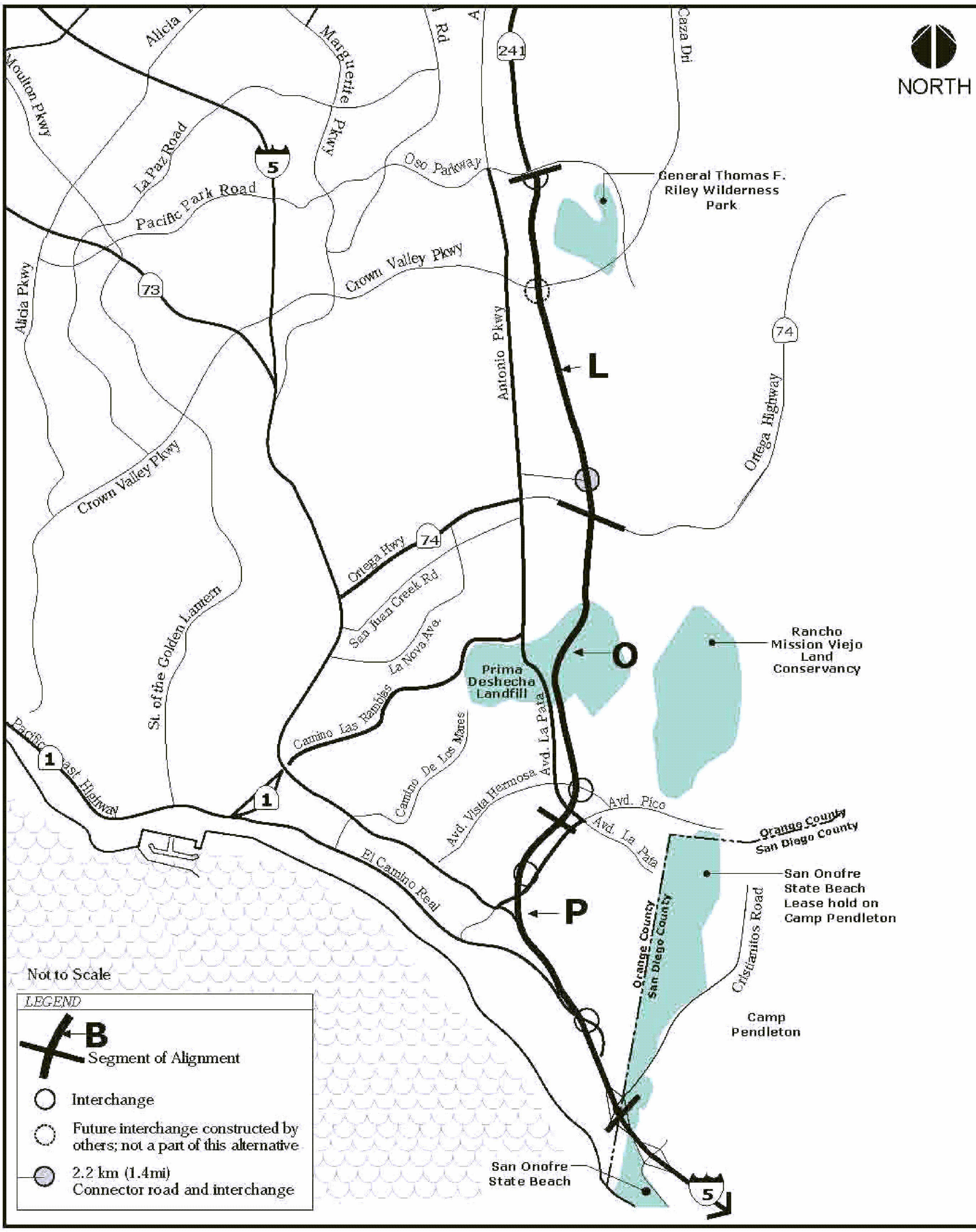
Source: P&D Consultants (2001).

Alignment of the Central Corridor - Ortega Highway Variation Alternatives



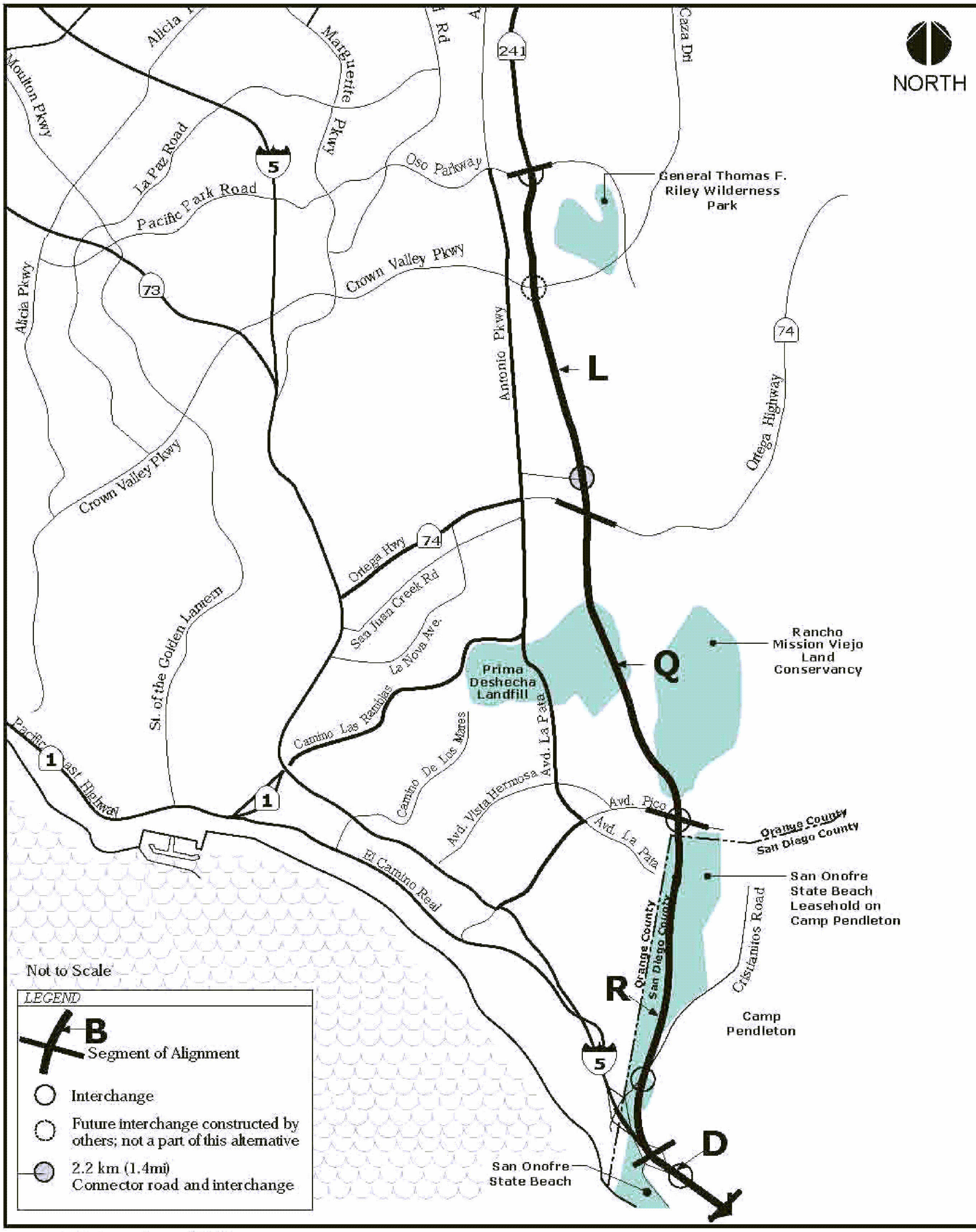
Source: P&D Consultants (2001).

Alignment of the Alignment 7 Corridor-Complete Alternatives



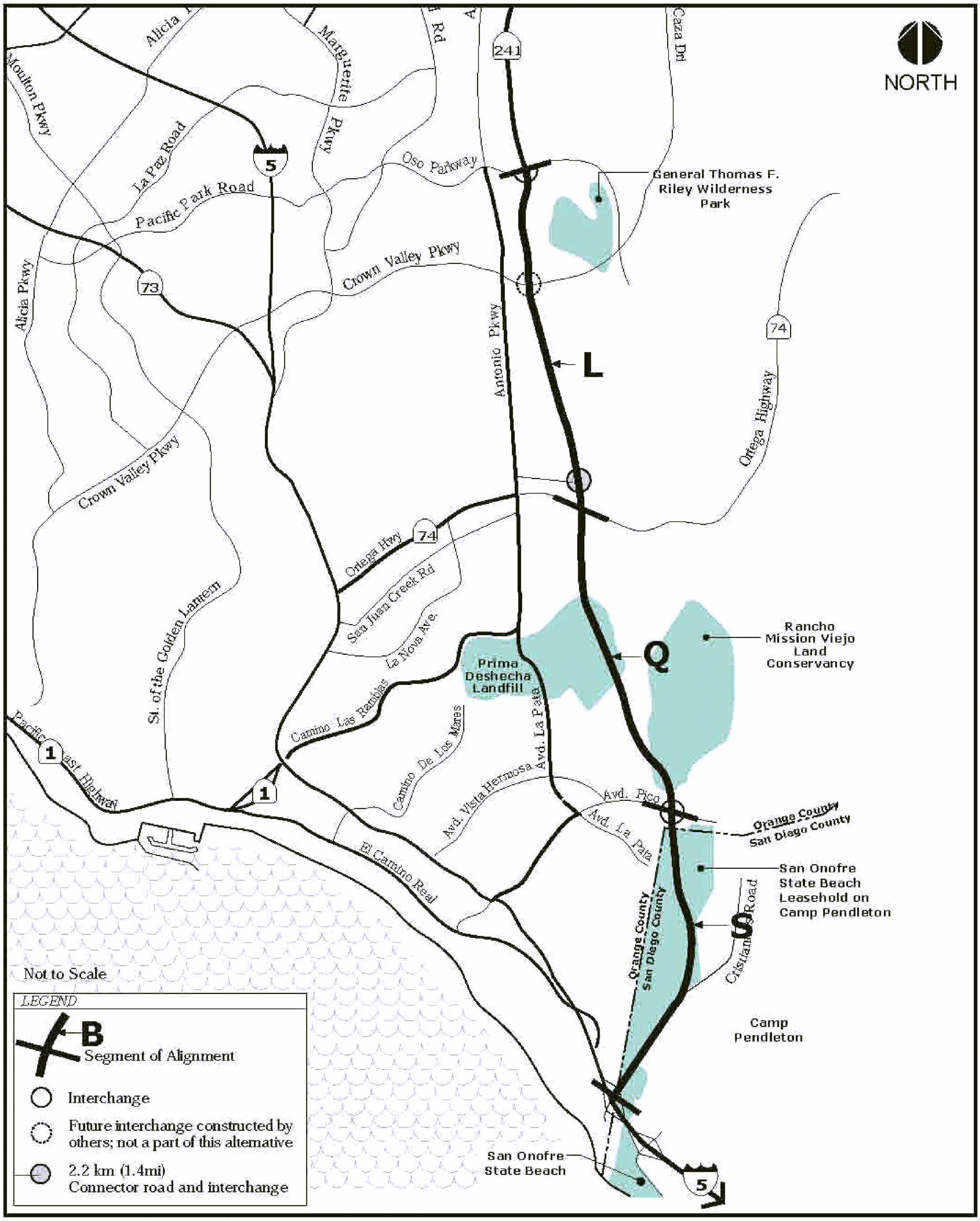
Source: P&D Consultants (2001).

Alignment of the Alignment 7 Corridor - 7 Swing Variation Alternatives



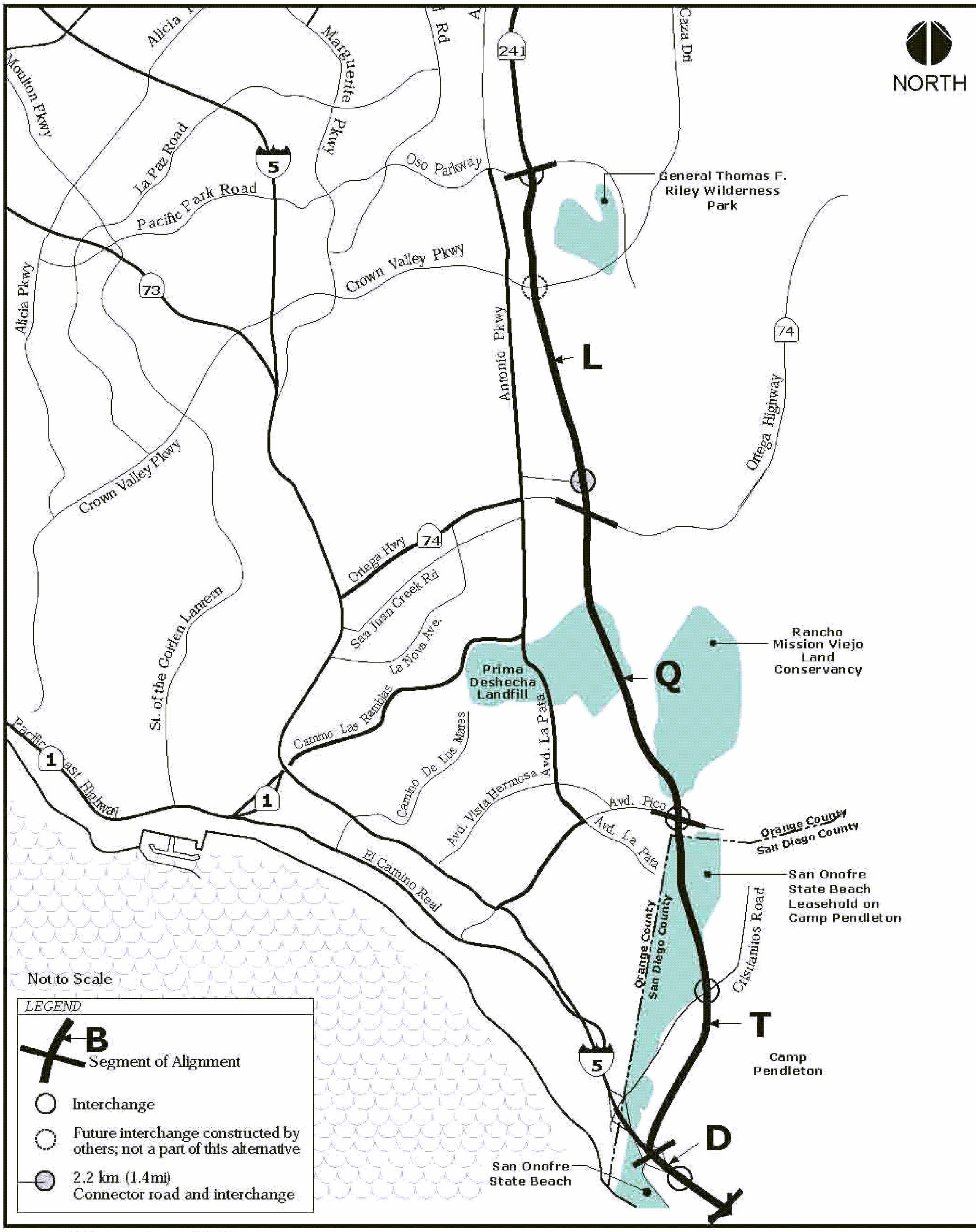
Source: P&D Consultants (2001).

Alignment of the Alignment 7 Corridor - Far East Crossover Variation Alternatives



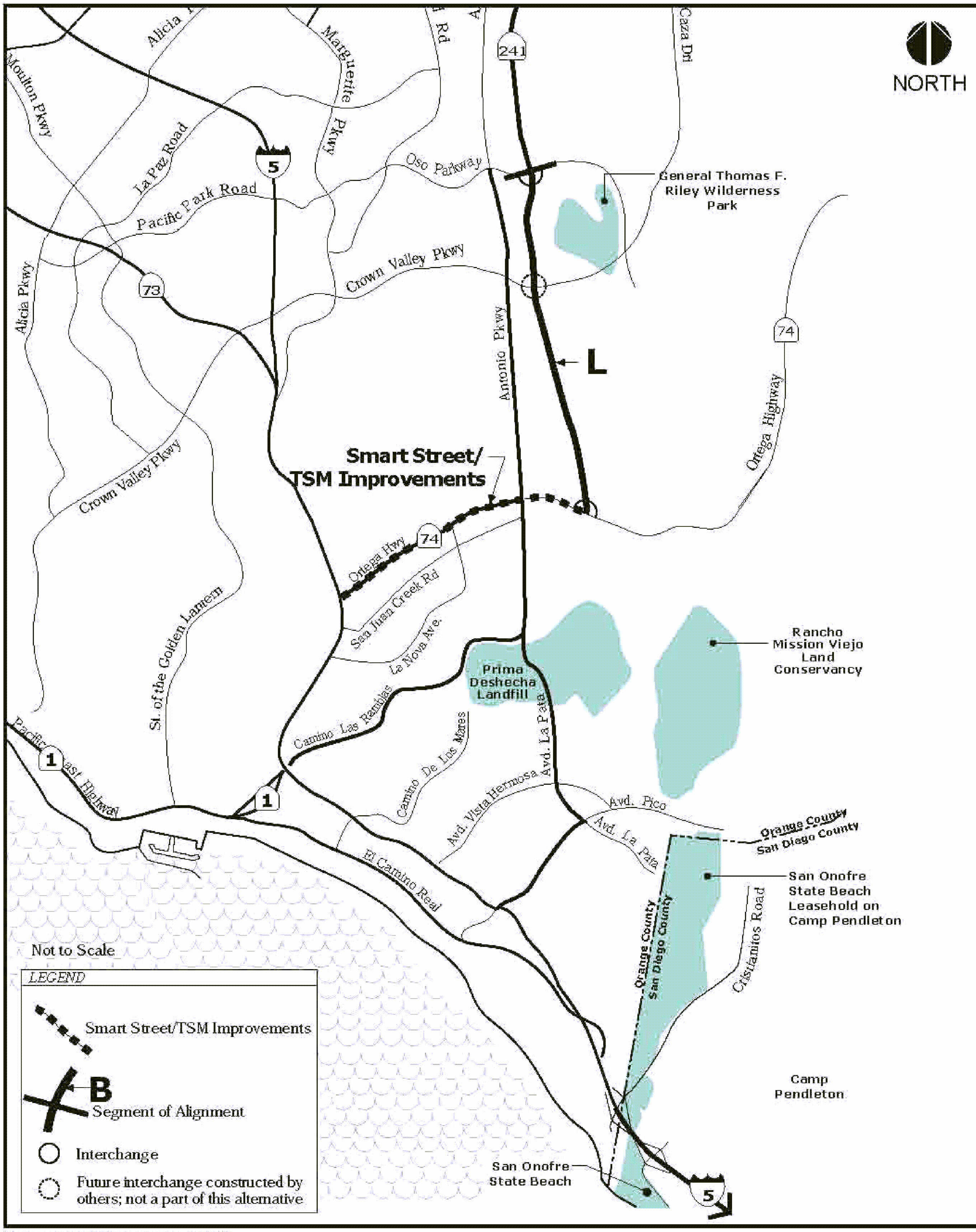
Source: P&D Consultants (2001).

Alignment of the Aligment 7 Corridor - Far East Crossover (Cristianitos) Variation Alternatives



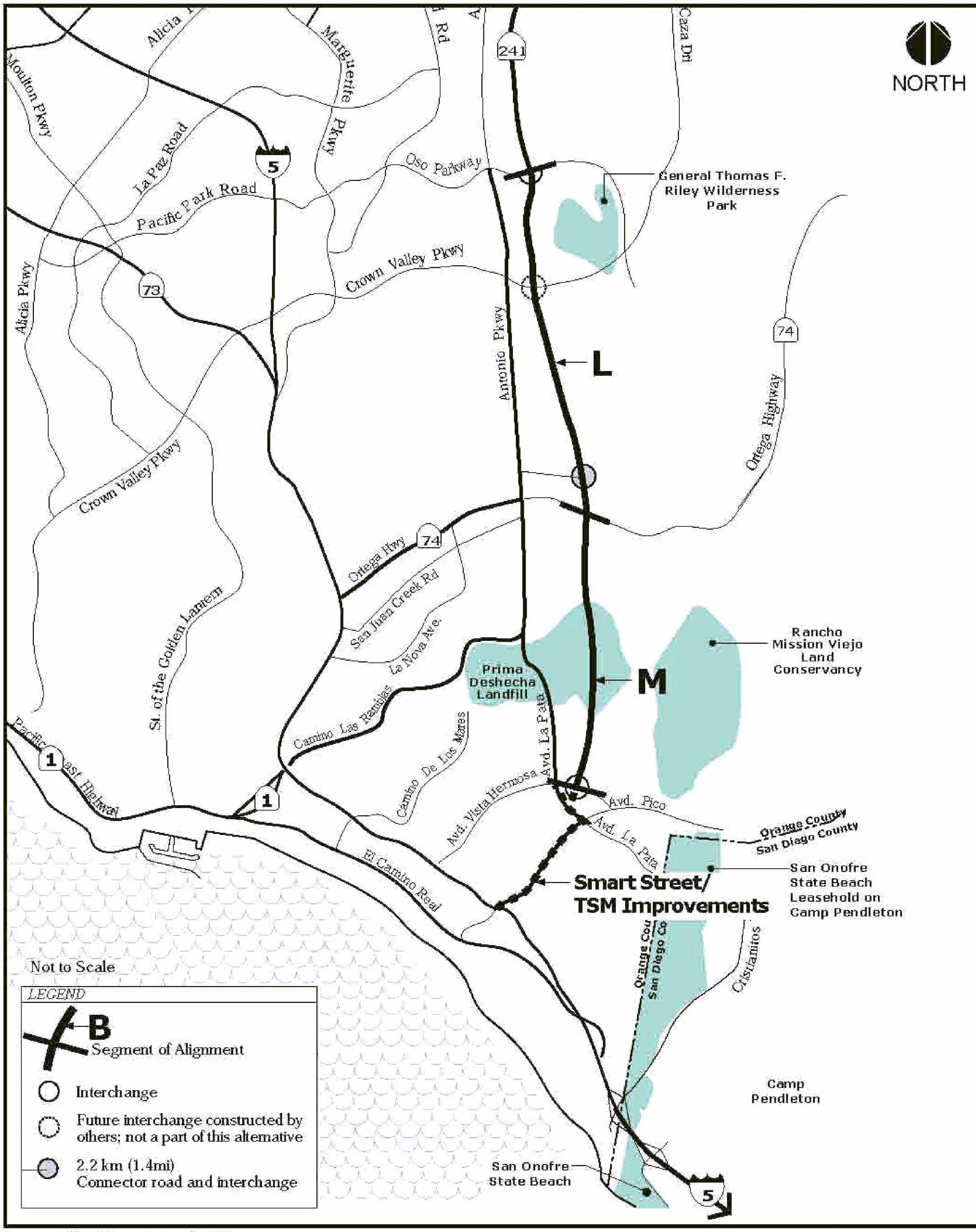
Source: P&D Consultants (2001).

Alignment of the Alignment 7 Corridor - Far East Crossover (Agricultural Fields) Variation Alternatives



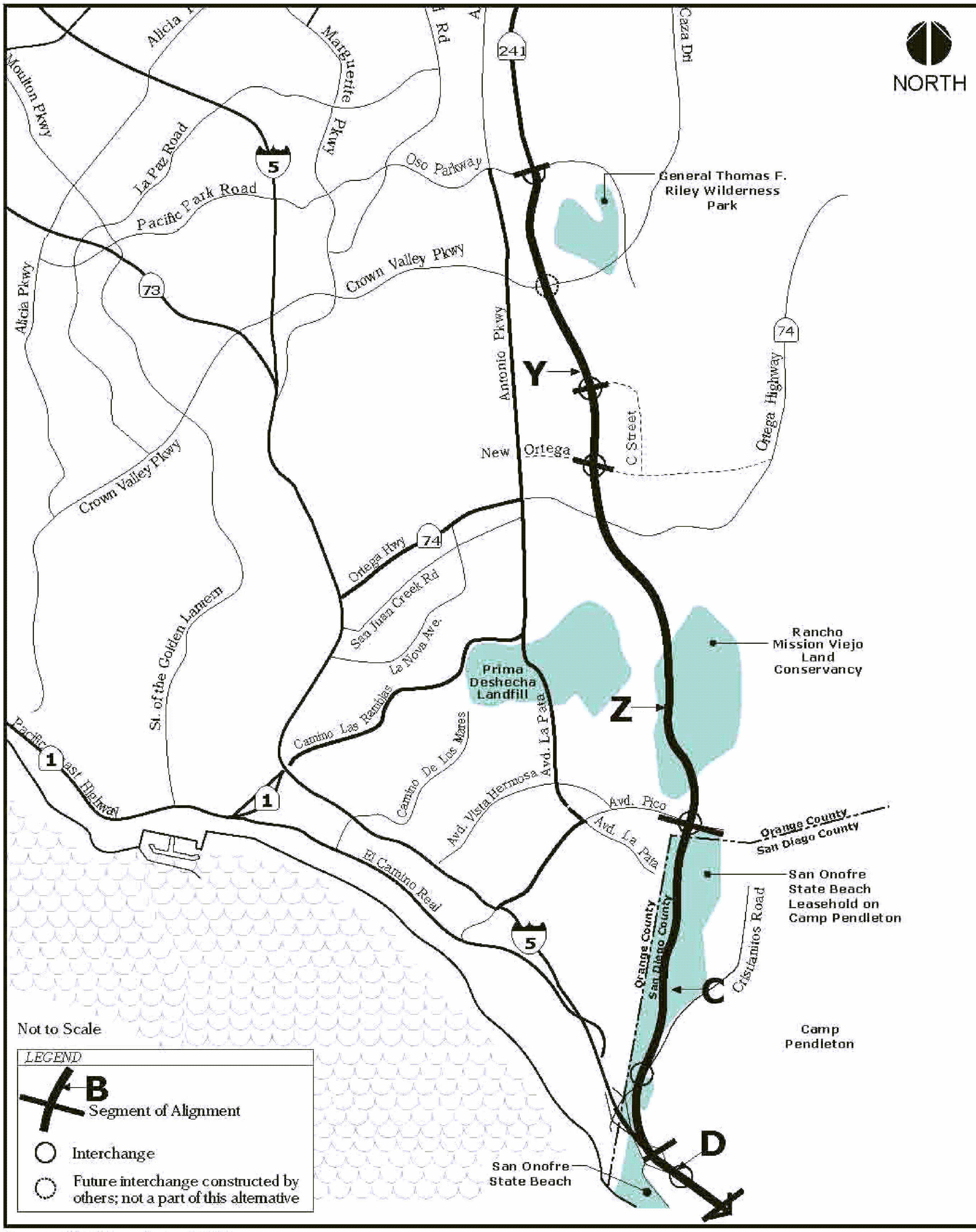
Source: P&D Consultants (2001).

Alignment of the Alignment 7 Corridor - Ortega Highway Variation Alternatives



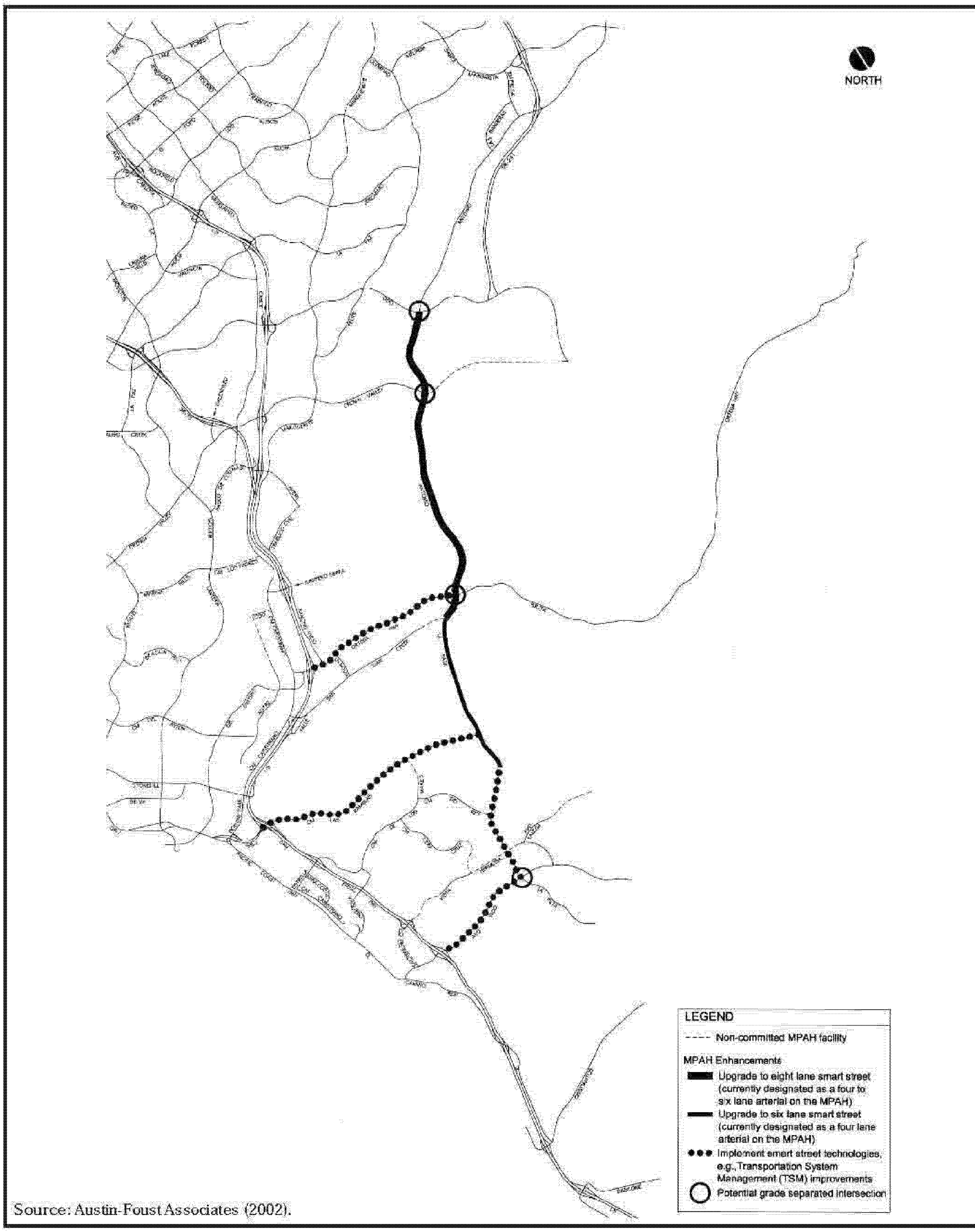
Source: P&D Consultants (2001).

Alignment of the Alignment 7 Corridor - Avenida La Pata Variation Alternatives



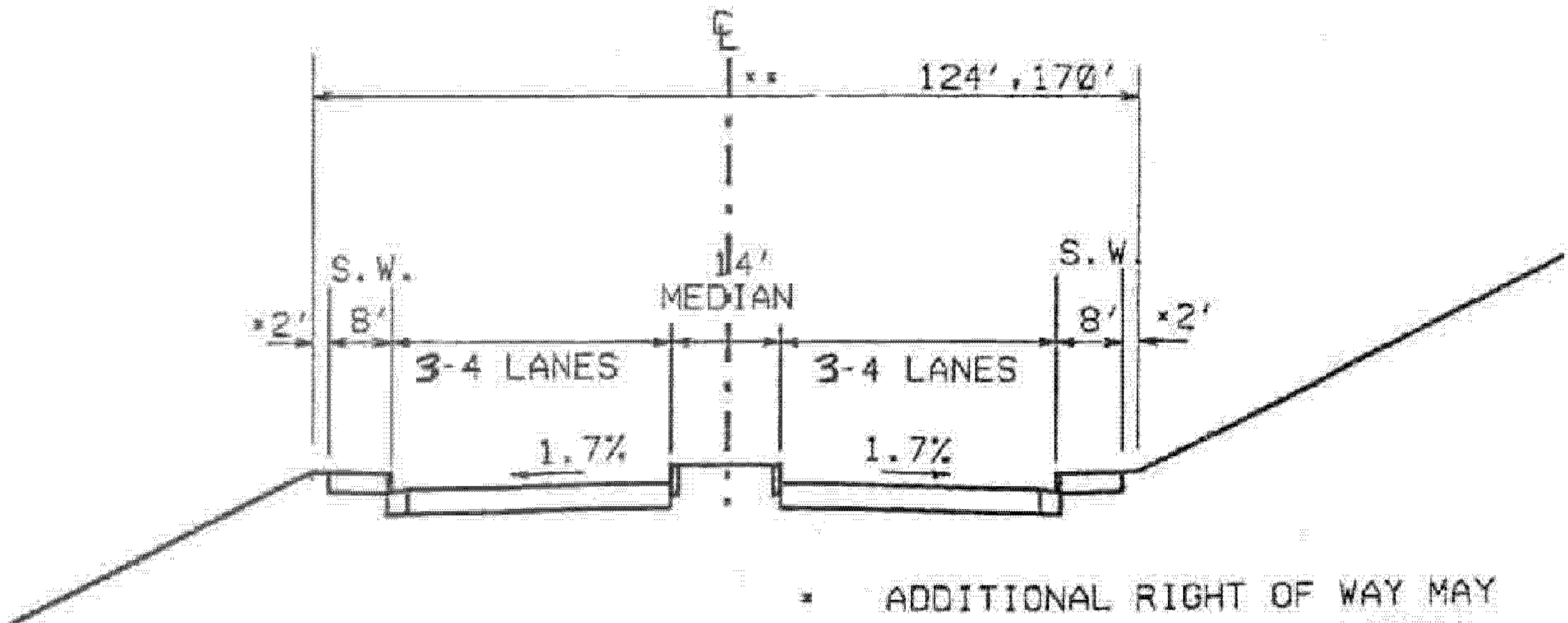
Source: P&D Consultants (2001).

Alignment of the Alignment 7 Corridor-Far East Crossover-Modified Alternatives



Source: Austin-Foust Associates (2002).

Arterial Improvements Only Alternative



* ADDITIONAL RIGHT OF WAY MAY BE REQUIRED FOR PEDESTRIAN, BICYCLE, AND EQUESTRIAN TRAIL

** 124' FOR SIX LANES
170' FOR EIGHT LANES

SIX LANE ARTERIAL (LA PATA AVENUE - SAN JUAN CREEK RD TO PICO)

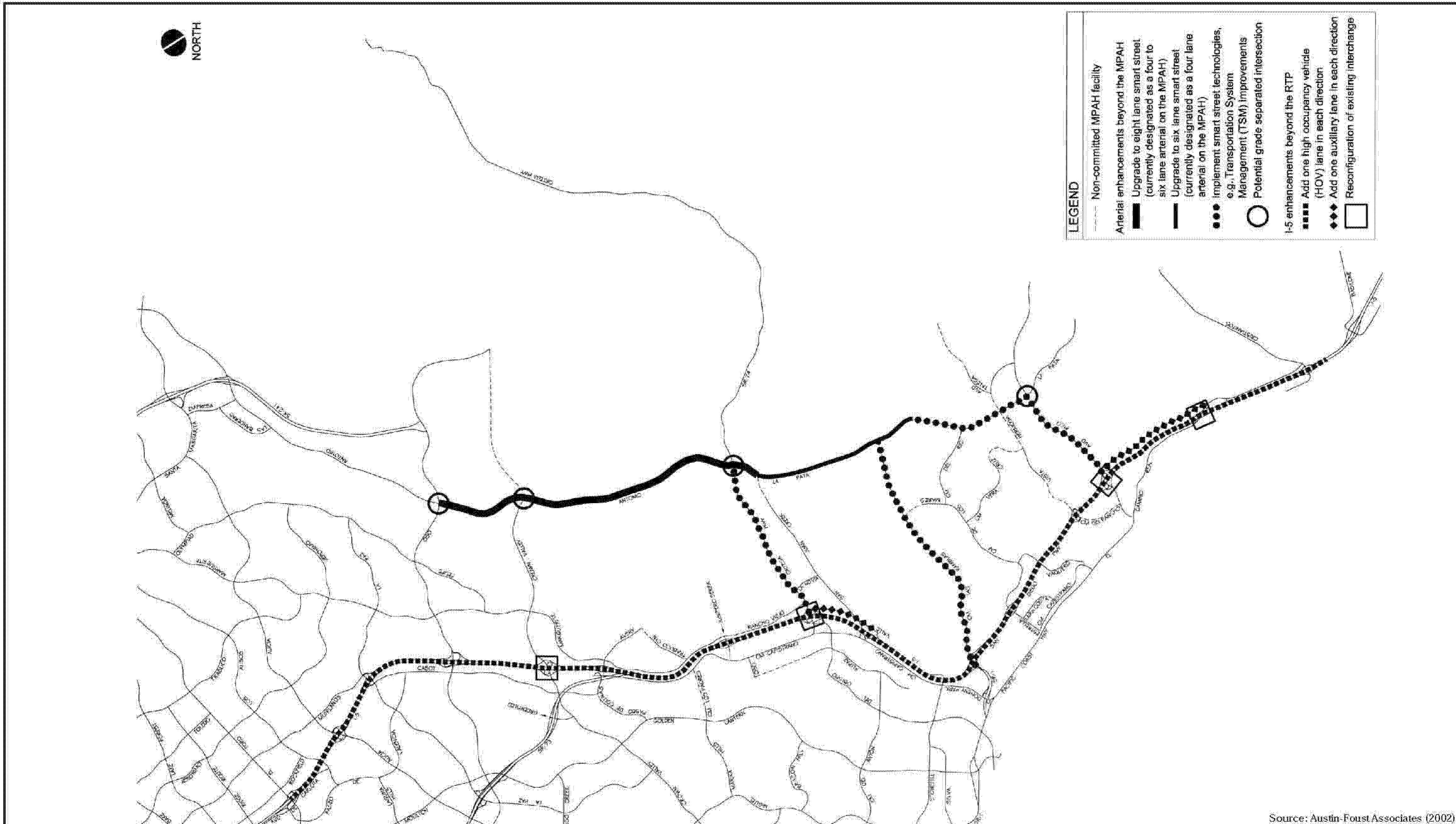
EIGHT LANE ARTERIAL (ANTONIO PKWY - SAN JUAN CK RD TO NORTH OF OSO PKWY)

ARTERIAL STREETS

TYPICAL CROSS SECTION

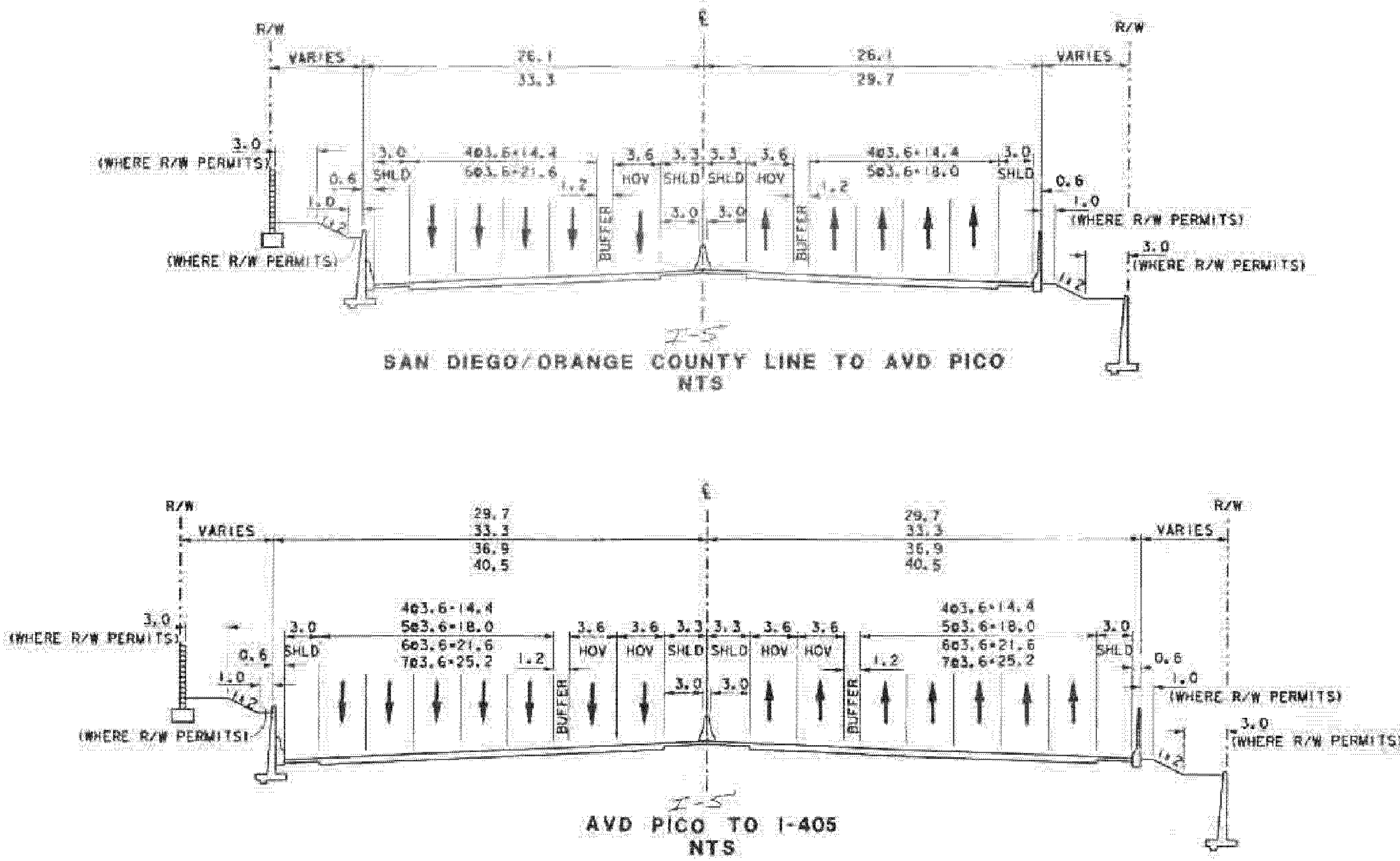
ALL DIMENSIONS ARE IN FEET UNLESS OTHERWISE SHOWN

Typical Cross Section for Antonio Parkway/La Pata Avenue Under the AIO and AIP Alternatives

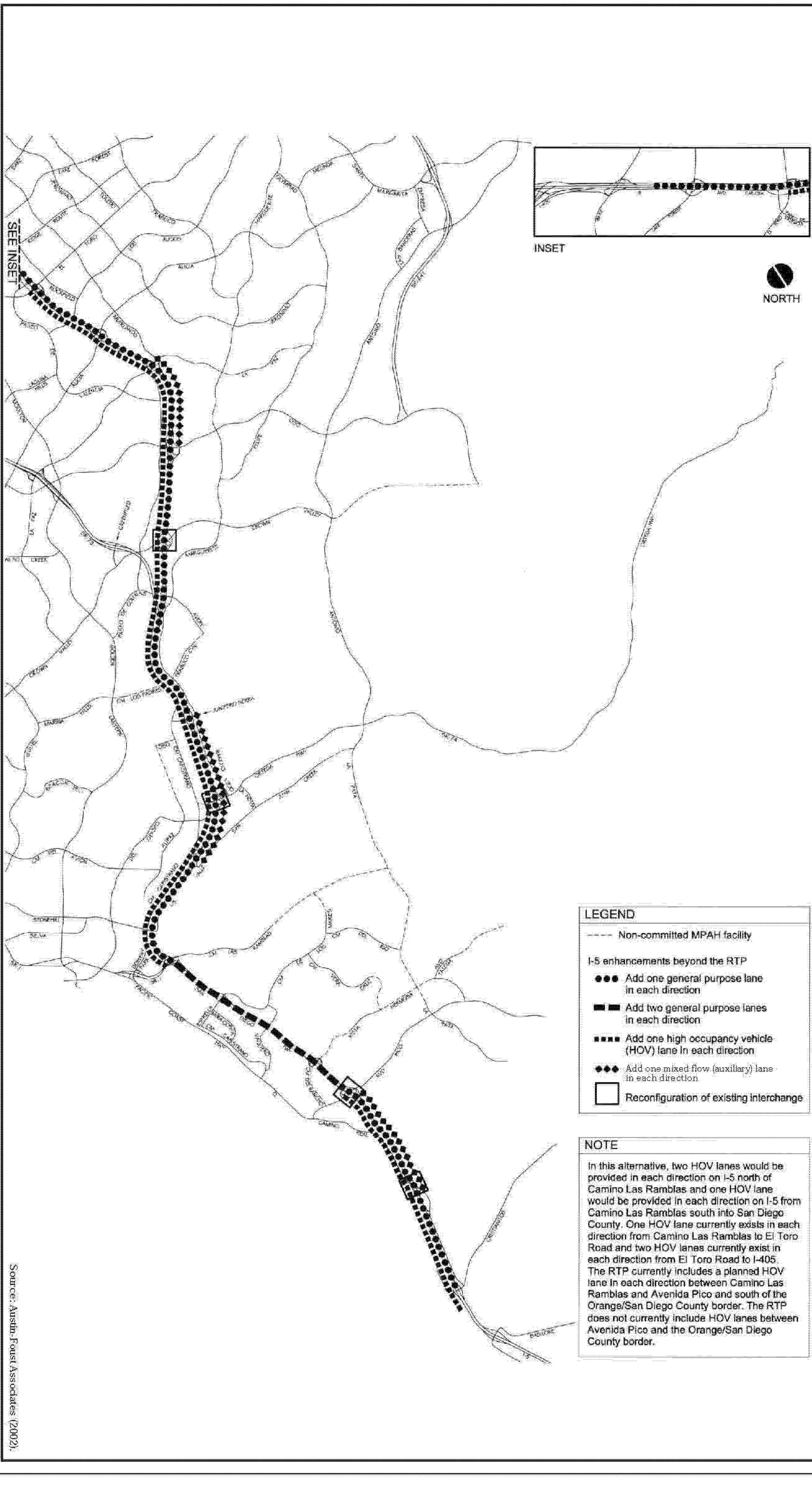


Source: Austin-Foust Associates (2002).

Arterial Improvements Plus I-5 Alternative

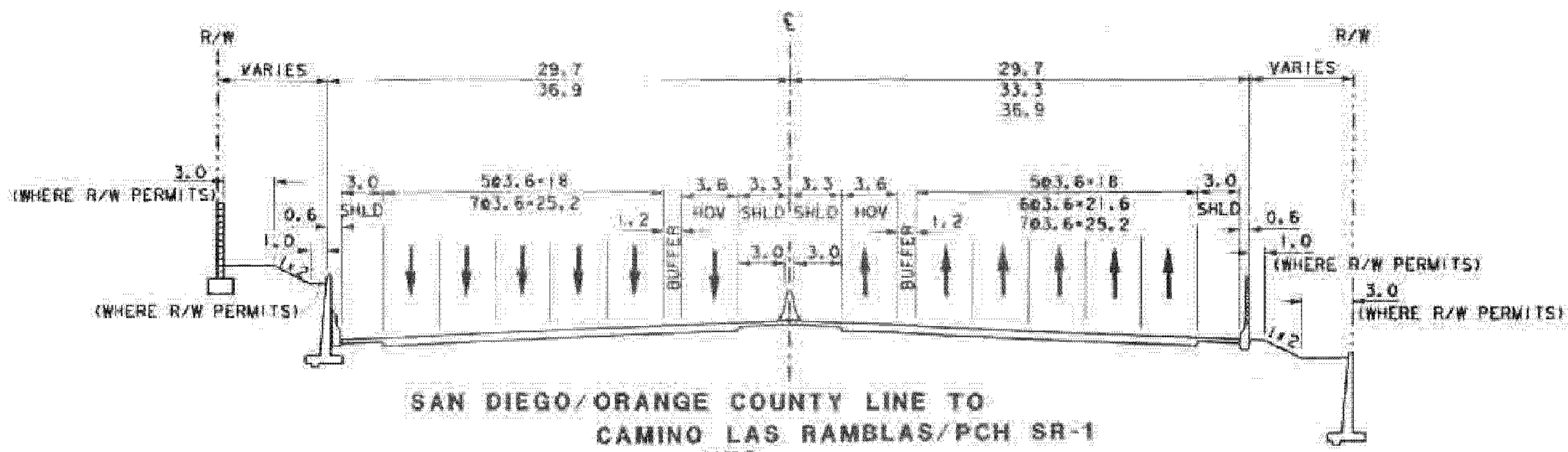


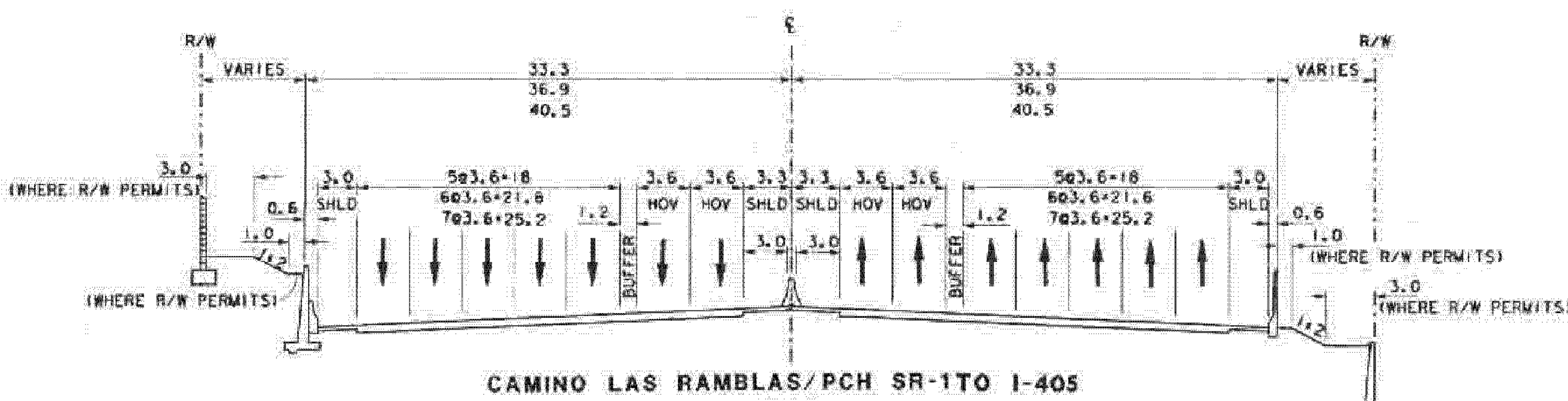
Typical Cross Section on I-5 Under the AIP Alternative



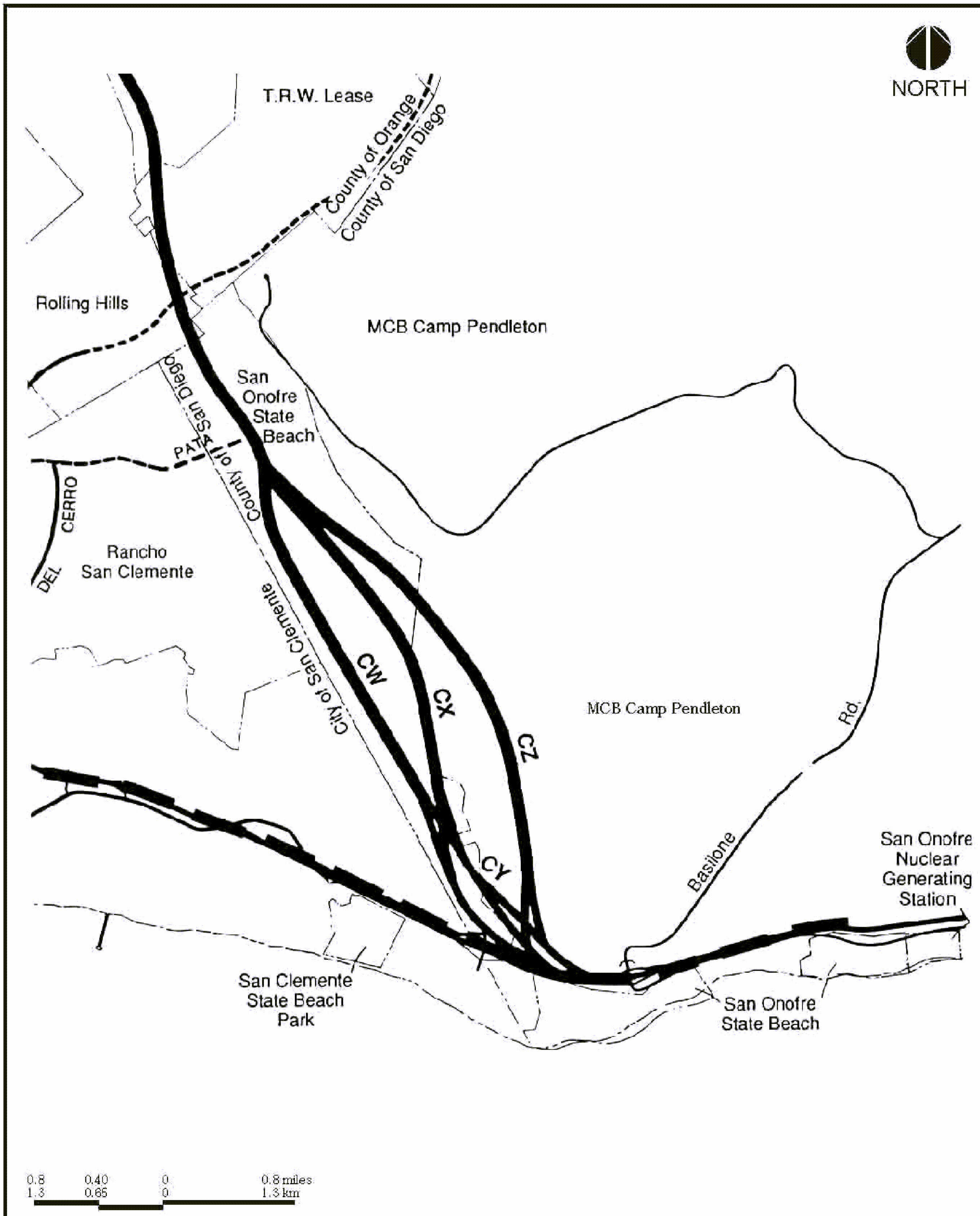
Source: Austin-Foust Associates (2002).

I-5 Alternative



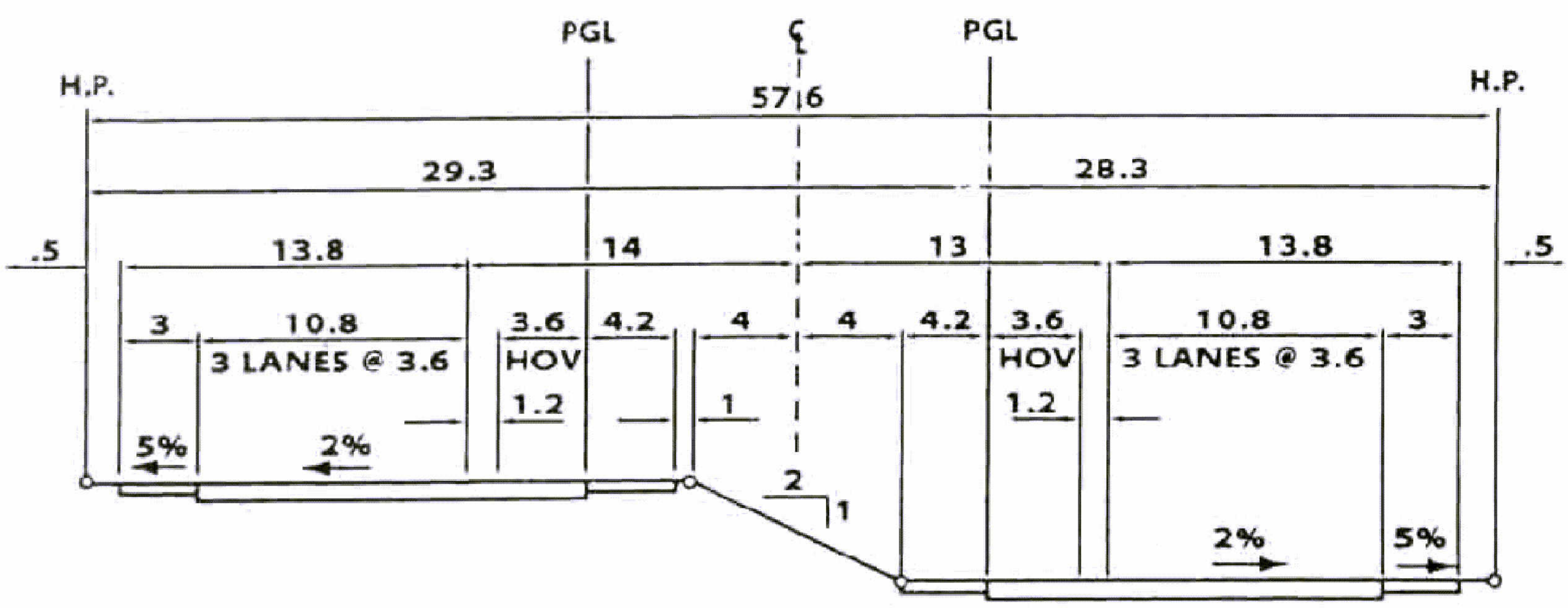


Typical Cross Section on I-5 Under the I-5 Alternative



Source: TCA Final EIR No.3 (Exhibit 2-10).

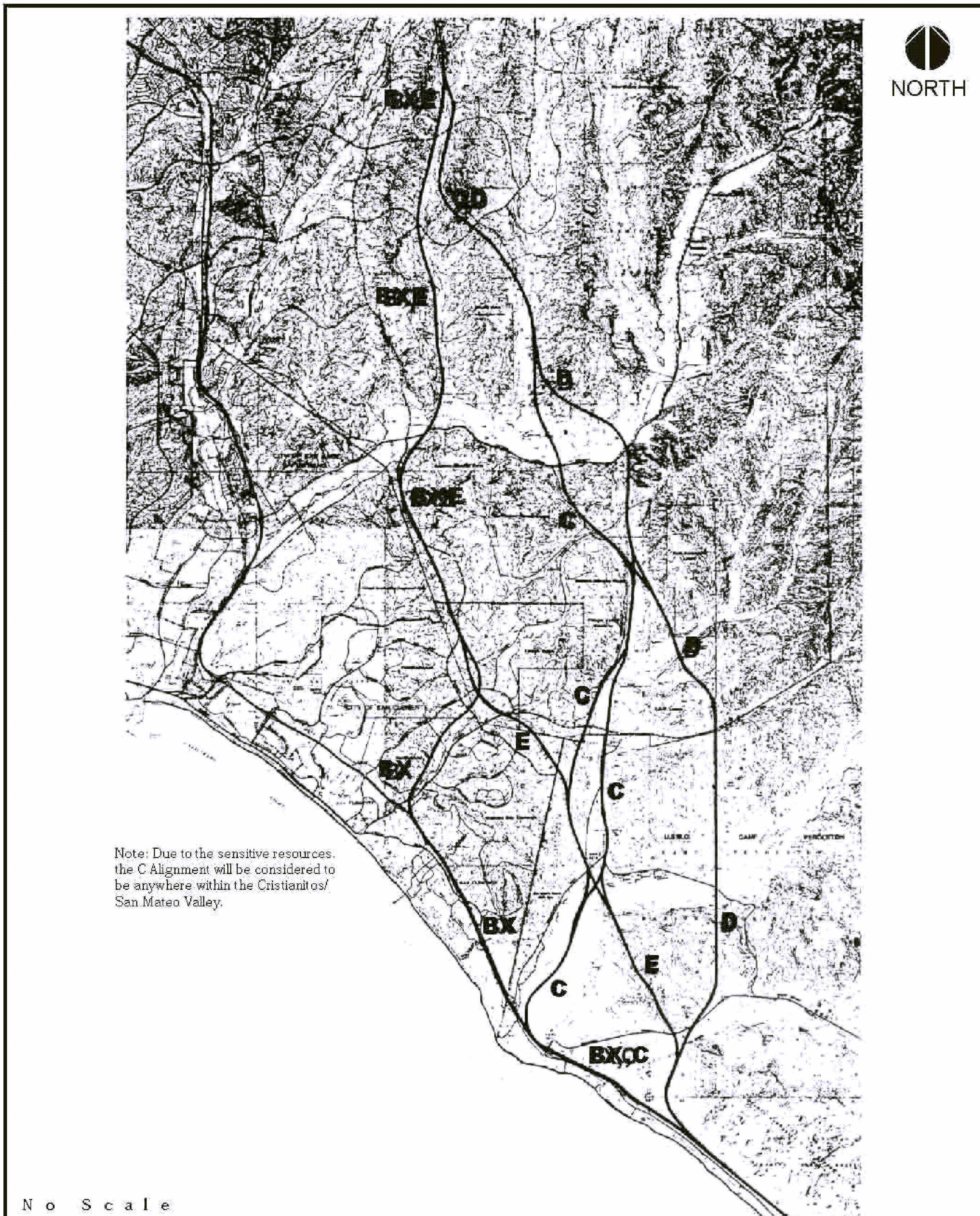
Variations (CW, CX, CY and CZ) Considered for the Southern Terminus of the Far East Alignment



Note: Dimensions are shown in meters.

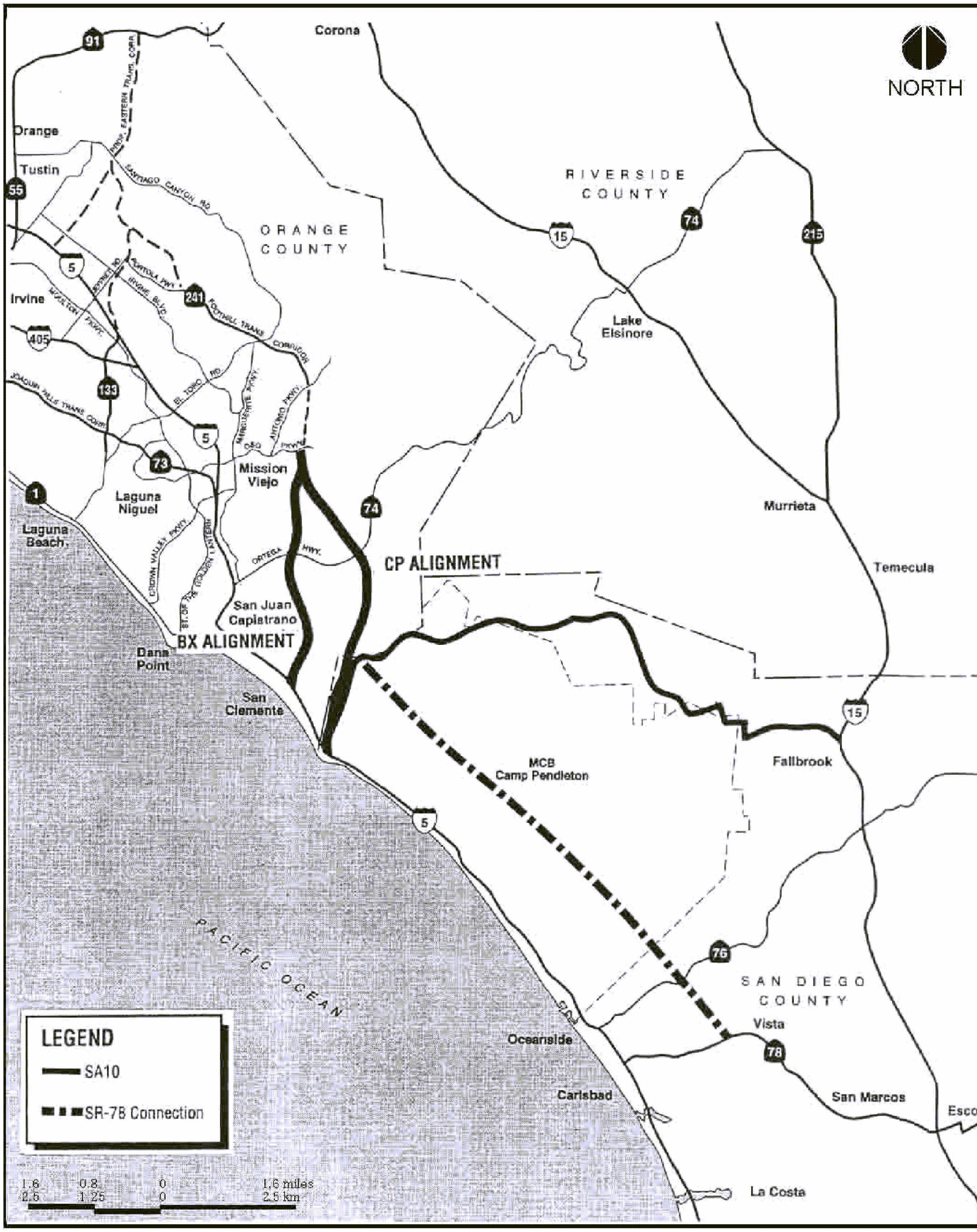
Source: TCA (2002).

Split Profile Cross Section



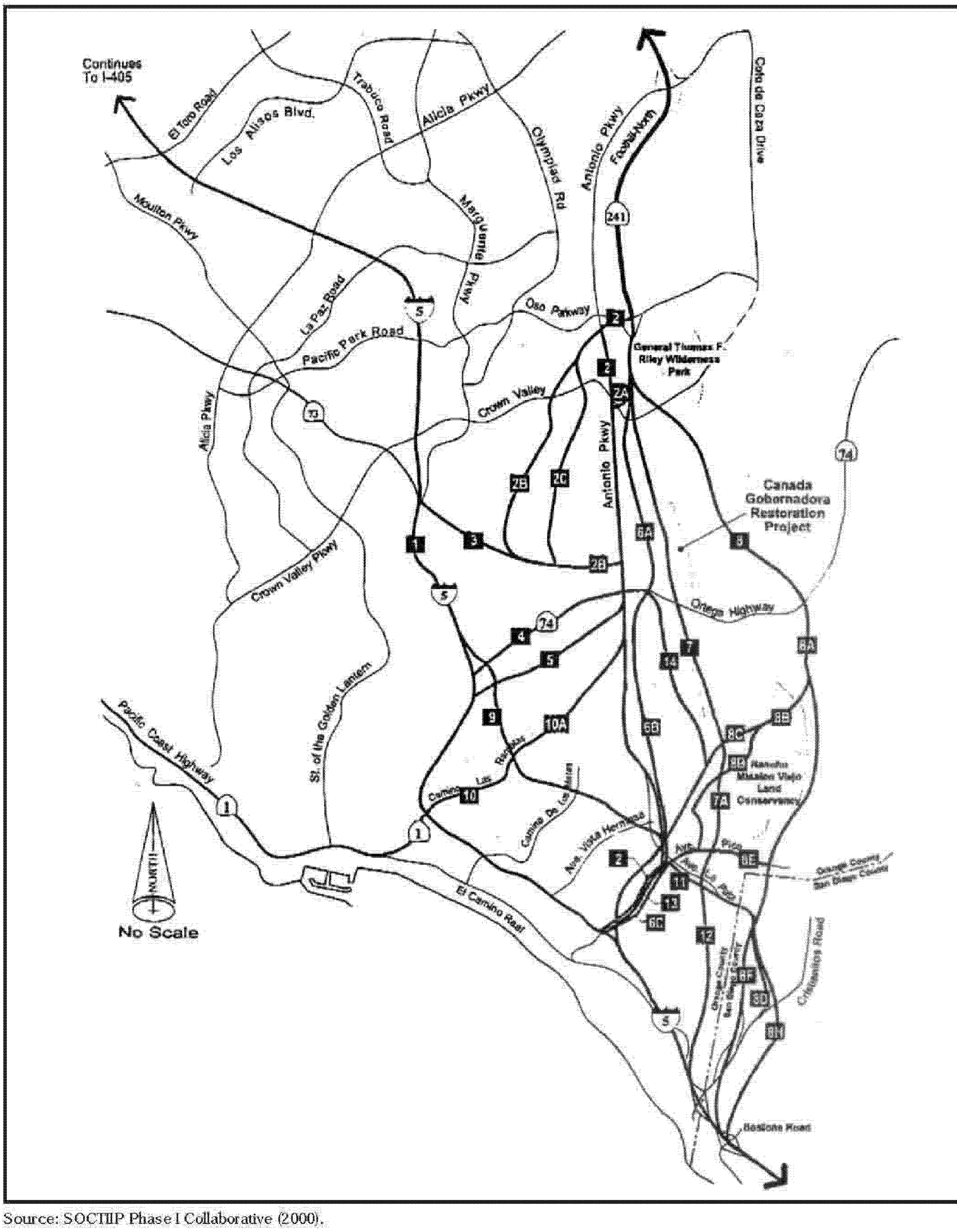
Source: Robert Bein, William Frost & Associates (1986).

Primary Alternatives Selected During the 1986 Scoping Process



Source: TCA Final EIR No.3.

Conceptual Alternative Routes on the Southern Terminus



Source: SOCTIIP Phase I Collaborative (2000).

Alignments Considered by the Collaborative